

ROYAL COMMISSION ON VIVISECTION.

APPENDIX

TO

SIXTH REPORT

OF

THE COMMISSIONERS

FURTHER PAPERS

1906—1910.

Presented to both Houses of Parliament by Command of His Majesty.



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ROYAL COMMISSION ON VIVISECTION.

APPENDIX

SIXTH REPORT

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REPORTS

INTRODUCTORY NOTE.

The following further papers are printed by order of the Royal Commission to supplement certain questions arising out of the Evidence or alluded to in their Final Report.

It should be noted that the Home Office Paper containing Reports on the Laws Restricting the Practice of Vivisection in British India, British Colonies and Foreign Countries was compiled in 1904 and communicated to the Royal Commission in 1906, and thus possibly does not represent the existing practice.

A portion of Sir William Byrne's Précis of Evidence has already been given in Vol. I., p. 1. ; it was thought desirable that the remainder should be published and it is accordingly printed here.

As regards the statement from Miss Lind-af-Hageby and the letter from the Hon. Stephen Coleridge as to alleged inaccuracies in evidence, these papers, which were received after Vol. V. of the Evidence had been printed, were forwarded by the Royal Commission to Messrs. Waller, Pembrey and Thane, respectively, for their observations.

REPORTS

ON THE

LAWS RESTRICTING THE PRACTICE

OF

VIVISECTION

IN

BRITISH INDIA, BRITISH COLONIES, AND FOREIGN COUNTRIES.

(A) SUMMARY.

(B) REPORTS.

(A) SUMMARY OF REPORTS.

i. **BRITISH INDIA.**—There is no legislation restricting vivisection in British India. A Bill drafted in 1892 was allowed to drop as unnecessary. In scientific institutions over which the Government has any control, the lines of the English Act 39 & 40 Vict., c. 77, are followed.

ii. **BRITISH COLONIES.**—Apart from the general law as to cruelty to animals, there is no legislation dealing with vivisection in Canada, Cape of Good Hope, Natal, New Zealand, Jamaica or Barbadoes. In the Australian Colonies the only enactments dealing directly with this question are those of Victoria and Queensland.

In Victoria, sections 12 and 13 of the Animals Protection Act, 1890, exempt persons practising vivisection from the penalties of that Act, and provide for the registration of practitioners and for the making of regulations.

In Queensland, section 12 of the Animals Protection Act of 1901 is in similar terms.

iii. **FOREIGN COUNTRIES.**—There are no special enactments or regulations restricting the practice of vivisection in Belgium, Bulgaria, France, Greece, Hesse, Hungary, Portugal, Roumania, Russia, Servia, Spain, Sweden, and Norway, Turkey or the United States of America.

In two countries there is definite legislation, viz.:—Denmark and Switzerland (cantons of Geneva and Zurich).

In the following countries the practice is regulated by Government instruction issued to universities, schools, and other institutions:—Austria, Baden, Bavaria, Germany, Holland, Italy and Saxony.

In Bavaria, Belgium, Germany and Russia, there is, however, general legislation providing penalties for those guilty of cruelty to animals, which might presumably be applicable to those who practise vivisection; but in France the general law relating to cruelty to animals only applies to such experiments held in public as are attended with excessive cruelty, not to those conducted in private: in Holland the law as to cruelty to animals does not apply to ill-treatment with a scientific object: in Sweden the general law would not seem to affect cases of cruelty to animals occurring in a laboratory, while in Norway an Act coming into force this year (1905) as to cruelty to animals specially provides that the Sovereign or any one to whom the Royal Authority may be delegated shall not be restricted from granting special permission to special persons for conducting experiments on animals which may entail suffering: in the United States of America, the law as to cruelty to animals specially excepts from the provisions of the Statute scientific experiments conducted under the authority of the faculty of some regularly incorporated college, university, or scientific society.

As to other foreign countries, it is not stated whether or not there is legislation as to cruelty to animals which might be applicable to those who perform experiments on living animals.

(B) REPORTS ON THE LAWS RESTRICTING THE PRACTICE OF VIVISECTION IN BRITISH INDIA, BRITISH COLONIES, AND FOREIGN COUNTRIES.

**I.
BRITISH INDIA.**

1

THE UNDER SECRETARY OF STATE FOR THE HOME DEPARTMENT to the UNDER SECRETARY OF STATE FOR INDIA.

113,920. Whitehall, December 12th, 1903.

SIR,—I am directed by Mr. Secretary Akers-Douglas to request that you will be so good as to move Mr. Secretary Brodrick, should he see no objection, to cause him to be informed what restrictions, if any, are imposed by law in British India on the performance of experiments on living animals.

Mr. Akers-Douglas would be obliged if he could be put in possession of this information by the middle of next month.

I am, &c. (Signed) HENRY CUNYNGHAME.

2

THE UNDER SECRETARY OF STATE FOR INDIA to the UNDER SECRETARY OF STATE FOR THE HOME DEPARTMENT.

India Office, Whitehall, London, S.W.,

R. & S. 3217. January 6th, 1904.

SIR,—In reply to your letter, No. 113,920, of December 12th, I am directed by the Secretary of State for India in Council to inform you that there is no British Indian legislation purporting to regulate the performance of experiments on living animals. The expediency of enacting some such measure was suggested to the Government of India in 1892, and a Bill was drafted, but eventually dropped for reasons which will appear from the enclosed correspondence. Since then the Government of India have instructed the authorities of the Pasteur Institute at Kasauli to follow the lines of the English Cruelty to Animals Act, 39 & 40 Vict., cap. 77, in performing experiments of this nature. It is believed that the same precautions are observed in all other medical and scientific institutions in India over which the Government has any powers of administrative control.

I have, &c. (Signed) A. GODLEY.

Portion of enclosure.

(i.)

THE RIGHT HONOURABLE THE GOVERNOR-GENERAL OF INDIA IN COUNCIL to the SECRETARY OF STATE FOR INDIA.

No. 43 of 1894. *Government of India Home Department. Public.—Medical.*

Simla, August 28th, 1894.

SIR,—In his Despatch No. 117 (Revenue), dated November 17th, 1892, Lord Kimberley, in reviewing the Report of the Hyderabad Chloroform Commission, observed that there was no Act in force in India similar to the English Act of 1876, 39 & 40 Vict., cap. 77, to restrict and regulate experiments on living animals, and suggested that, as it was possible that the labour of the Commission might lead to the adoption of the same method of scientific research in British India, legal powers should be taken in this country to admit of conditions being imposed analogous to those required under the English Act as to the persons by whom, and the regulations under which, these experiments might be conducted.

2. We consulted the Local Governments and Administrations upon a draft Bill which we caused to be prepared on the lines of the English Act, intimating that we were disposed to accept the principle that legislation should be undertaken for the purpose indicated. We now forward a copy of the replies which have been received, and of a representation addressed by the "Scottish Society for the Total Suppression of Vivisection."

3. It will be seen that the proposal to legislate on the subject has, generally speaking, met with disapproval or indifference on the part of the officials consulted, and that there is no practice of experimenting on animals in India such as to call for regulation by law. It is believed that the only experiments carried on in this country in a systematic manner are those made in regard to the effects of snake-poison in charge of a European Medical Officer at Calcutta. It is unlikely that such experiments will become common in the future, as there are in this country very few persons competent to conduct them, and these persons are practically without exception European servants of Government who are too much occupied with their own ordinary work to find time for experiments unconnected therewith. Natives of India are not by aptitude or inclination drawn towards experiments of the kind under notice; and, considering that there is a dearth in this country of well-furnished laboratories, that the climate of India generally is not favourable for experiments during a great part of the year, and that funds do not exist for endowment of research, it seems to us very unlikely that non-official Europeans interested in original research will come to India to pursue their investigations.

4. It will further be observed from the memorial of the Scottish Society, and the letter of Mr. Justice Norris enclosed in the Bengal Government's reply, that the proposed measure has been met by the anti-vivisectionists with strenuous opposition on the ground that the effect of legalising vivisection is to popularise it. It may also be added that, from the few notices on the subject which appeared in the native newspapers, it would seem that any such enactment is likely to be misunderstood by the people generally as giving a legislative sanction to cruelty.

5. Having regard to these considerations, we have arrived at the conclusion that legislation on the subject of vivisection in this country is unnecessary and undesirable at present, and accordingly we do not propose to proceed further in the matter. This decision will not interfere with such legislation being undertaken hereafter, should circumstances or the state of public opinion ever render it necessary.

We have, &c.

ELGIN.
G. S. WHITE.
A. E. MILLER.
H. BRACKENBURY.
C. B. PRITCHARD.
J. WESTLAND.
A. P. MACDONNELL.

(ii.)

THE SECRETARY OF STATE FOR INDIA to the RIGHT HONOURABLE THE GOVERNOR-GENERAL OF INDIA IN COUNCIL.

Revenue, No. 167.

India Office, London,
December 6th, 1894.

MY LORD,—I have considered in Council the papers received with your Excellency's letter, No. 43, dated the 28th August, 1894, regarding the suggestion that a Vivisection Act should be enacted for India.

2. I am not prepared to dissent from the conclusion of your Government that a Vivisection Act is not at present necessary in India.

3. I gather from the present papers that physiological investigations of the kind under discussion are occasionally undertaken for the public good by officers in your service. I am confident that your scientific officers would, in such cases, by the employment of anæsthetics and in other ways, take precautions against causing avoidable pain to animals. Nevertheless, it would be well that you should issue standing orders for the guidance of your officers who may have to undertake such investigations.

I have, &c. (Signed) HENRY H. FOWLER

II.

BRITISH COLONIES.

1.

THE UNDER SECRETARY OF STATE FOR THE HOME DEPARTMENT to the UNDER SECRETARY OF STATE FOR THE COLONIES.

113,920.

Whitehall, December 12th, 1903.

SIR,—I am directed by Mr. Secretary Akers-Douglas to request that you will be so good as to move Mr. Secretary Lyttelton, should he see no objection, to cause him to be informed what restrictions, if any, are imposed by law in the several Colonies on the performance of experiments on living animals.

Mr. Akers-Douglas would be obliged if he could be put in possession of a part at least of this information by the middle of next month.

I am, &c. (Signed) HENRY CUNYNGHAME.

2.

THE UNDER SECRETARY OF STATE FOR THE COLONIES to the UNDER SECRETARY OF STATE FOR THE HOME DEPARTMENT.

44779/1904.

Downing Street, January 22nd, 1904.

SIR,—I am directed by Mr. Secretary Lyttelton to acknowledge the receipt of your letter of the 12th ultimo (113,920) inquiring as to any restrictions imposed by law in the Colonies on the performance of experiments on living animals, and to refer you, for the information of Mr. Secretary Akers-Douglas, to sections 12 and 13 of the Victoria Act, 1064 of 1890, and the Regulations thereunder, and to section 12 of the Queensland Act, No. 26 of 1901, copies of which are enclosed.

I am to state that a search has been made through a number of Colonial enactments dealing with the protection of animals, and that no other provisions with regard to experiments on living animals have been traced; but should Mr. Akers-Douglas consider it necessary, Mr. Lyttelton would be prepared to address a circular despatch to the Governors of any other Colonies which may be considered of sufficient importance, requesting information as to any such restrictions imposed by law.

I am, &c. (Signed) FRED. GRAHAM.

Extract from Enclosure (i.).

Victoria: Sections 12 and 13 of the Animals Protection Act, 1890.

12. Except as hereinafter provided nothing herein contained shall apply to any act done in any of the following cases:—

(a) In the extermination of rabbits, foxes, wild dogs, or vermin; or

(b) In the hunting, snaring, trapping, shooting, or taking of any animal not in a domestic state; or

(c) In any experiment or vivisection performed upon any animal by any legally qualified medical or veterinary practitioner for the purposes of scientific investigation: Provided that the Governor in Council may, from time to time, make and alter regulations for the registrations of those practitioners who desire to perform such experiments or vivisection and for the humane conduct of their operations.

13. The exemption contained in the next preceding section shall not take effect:—

(a) In any case of cruelty; or

(b) In any case of vivisection or other experiment wherein the following conditions are neglected (that is to say):—

(i.) The operation shall be performed in accordance with the regulations of the Governor in Council as aforesaid; and

(ii.) The animal subject to the operation shall during the whole time thereof be so under the influence of some anæsthetic as to be insensible to pain; and

(iii.) Where the animal has in the course of the operation been so injured that its recovery would involve serious suffering, it shall be destroyed while still insensible.

Enclosure (ii.).

Victoria: Regulations made under the Animals Protection Act, 1890.

The Governor in Council has repealed the Regulations under the provisions of Section 12 of "The Protection of Animals Act, 1881," made by Order in Council dated the 27th August, 1883, and published in the Government Gazette of the 31st August, 1883; and, in pursuance of the provisions of Section 12, Sub-section (c), of the "Animals Protection Act, 1890" (54 Vict. No. 1,064), has made the subjoined Regulations in lieu thereof.

ALFRED DEAKIN, Chief Secretary.

Chief Secretary's Office,

Melbourne, August 4th, 1890.

Regulations.

1. No experiment or vivisection shall be performed by any person upon any animal under the provisions of the above Act unless the Governor in Council shall have granted to the said person a licence to perform such experiment or vivisection.

2. Every such licence shall be in the form or to the effect set forth in the Schedule hereto annexed.

3. The Chief Secretary may direct any person performing experiments or vivisection under the said Act, from time to time, to make such reports to him of the results of such experiments or vivisection in such form, or with such details, as he may require.

4. No experiment or vivisection as aforesaid shall be performed for the purpose of obtaining manual skill, or merely satisfying curiosity.

5. In every experiment or vivisection the animal operated upon shall be kept thoroughly under the influence of some efficient anæsthetic during the time of such operation.

6. Where permanent injury or abiding discomfort is likely to result from such experiment, the person operating shall procure the extinction of the animal's life without delay, and in as painless a manner as possible.

SCHEDULE.

Licence to perform experiments or vivisection upon animals under the Animals Protection Act, 1890, and for the humane conduct of such operations.

KNOW all men that I, the Governor of the Colony of Victoria, acting by and with the advice of the Executive Council, do hereby, in pursuance of the provisions of the Animals Protection Act, 1890, give to (A.B.) of (residence and occupation) a full licence and authority to perform experiments or vivisection upon animals under the provisions aforesaid: Provided that this licence is subject to the conditions following, that is to say:—That the said (A.B.) shall observe all the provisions of the above recited Act, and all Regulations of the Governor in Council for the time being in force thereunder, and that this licence may be revoked at any time by the Governor in Council.

Dated this day of 189 .

Approved by the Governor in Council, the 4th August, 1890.

G. WILSON BROWN,
Clerk of the Executive Council.

Extract from Enclosure (iii.).

Queensland: Section 12 of the Animals Protection Act of 1901.

12. (1) Except as hereinafter provided, nothing herein contained shall apply to any act done in any of the following cases:—

(a) In the extermination of rabbits, marsupials, wild dogs, or vermin; or

(b) In the extermination or destruction of any animal under the authority of any Act or byelaw in force for the time being; or

(c) In the hunting, snaring, trapping, shooting, or capturing of any animal not in a domestic state; or

(d) In any experiment or vivisection performed upon any animal by any legally qualified medical practitioner or veterinary practitioner, or by any officer appointed by the Governor in Council for the purposes of scientific investigation: Provided that the Governor in Council may from time to time make

* Regulations for the registration of those practitioners who desire to perform such experiment or vivisection and for the humane conduct of their operations.

(2) The exemption herein contained shall not take effect :—

- (a) In any case of cruelty ; or
- (b) In any case of vivisection or other experiment wherein the following conditions are neglected, that is to say :—

- (i.) The operation shall be performed in accordance with the said Regulations ;

- (ii.) The animal subject to the operation shall, during the whole time thereof, be so under the influence of some anæsthetic as to be insensible to pain ;

- (iii.) When the animal has in the course of the operation been so injured that its recovery would involve serious suffering, it shall be destroyed whilst still insensible.

3.

THE UNDER SECRETARY OF STATE FOR THE HOME DEPARTMENT to the UNDER SECRETARY OF STATE FOR THE COLONIES.

113,920/11.

Whitehall, February 2nd, 1904.

SIR,—I am directed by the Secretary of State to acknowledge the receipt of your letter of the 22nd ultimo (44,779/1904) on the subject of the practice of vivisection in the Colonies, and to request you to convey to Mr. Secretary Lyttelton his thanks for the documents contained therein.

Mr. Akers-Douglas observes that Mr. Lyttelton is prepared to address, if necessary, a circular despatch on the subject to the Governors of the other more important Colonies, and, as he is desirous of ascertaining what regulations in the absence of statutory restrictions exist where experiments on living animals are likely to be performed, Mr. Akers-Douglas will be glad if Mr. Lyttelton will be so good as to communicate with the Governors as proposed.

I am to suggest for Mr. Lyttelton's consideration the names of the following Colonies from which particulars should be obtained :—Canada, Cape of Good Hope, Natal, the Australian Colonies, New Zealand, Jamaica, Barbados.

I am, &c. (Signed) HENRY CUNYNGHAME.

4.

THE UNDER SECRETARY OF STATE FOR THE COLONIES to the UNDER SECRETARY OF STATE FOR THE HOME DEPARTMENT.

Downing Street, November 8th, 1904.

SIR,—I am directed by Mr. Secretary Lyttelton to acknowledge the receipt of your letter of the 5th ultimo (113,920/11), on the subject of the practice of vivisection in the Colonies, and to transmit, for the information of Mr. Secretary Akers-Douglas, copies of despatches replying to the circular despatch of February 13th last, which have been received from the Officers administering the Governments of Barbados, Natal, New Zealand, and the State of South Australia, together with memoranda furnished by the Officers administering the Governments of Cape of Good Hope and the States of Western Australia, Queensland, New South Wales and Victoria.

2. Despatches have also been received from the Governor of Jamaica and from the Officer administering the Government of the State of Tasmania to the effect that no laws or regulations are in force in connexion with experiments on living animals.

3. No reply has yet been received from the Governor-General of Canada, but a reminder has been addressed to that Colony.

I am, &c. (Signed) C. P. LUCAS.

Summary of Enclosures.

The law regulating the performance of experiments on living animals in the Colonies of Queensland and Victoria is already set out in the enclosures to the letter from the Colonial Office of January 22nd, 1904, and the despatches

* No regulations have as yet been made.

from the Officers administering these Governments enclosed in the letter do not contain any additional information.

In the Colonies of Barbados, Natal, New Zealand, South Australia, Cape of Good Hope, Western Australia and New South Wales there are no laws or regulations dealing directly with the performance of experiments on living animals, although there are laws dealing with cruelty to animals generally.

In New Zealand it appears that the only persons doing experimental work are the Officers of the Agricultural and Health Departments, and there are no restrictions imposed on them other than the ordinary control of the Departmental Heads.

In the Cape of Good Hope the Colonial Veterinary Surgeon reports as follows :—

“The experiments made on living animals in this Colony are all conducted by Officers acting under the direction of the directors of the Bacteriological Laboratories at Cape Town and Grahamstown and by certain members of the Veterinary Staff, and consist wholly—

“(a) Of feeding animals on certain plants which are suspected of being injurious or poisonous when eaten by these animals on the veldt ;

“(b) Inoculation experiments conducted with the object of ascertaining whether certain diseases of Stock are communicable from one animal to another and through what medium ;

“(c) Inoculation experiments with certain modified animal fluids with the object of discovering methods of inoculation for the modification, prevention or cure of the specific and epizootic diseases of Stock ; and

“(d) Parasitic experiments, that is, rearing certain skin parasites suspected of being the medium of conveying certain Stock diseases, hatching out their progeny, and placing these on living animals in order to ascertain whether they do communicate the infective agent of such disease or not.

“All these experiments require to be conducted with great care, under specially arranged aseptic conditions, and the animals experimented on require to be kept under the best hygienic conditions possible, and treated with the utmost care and attention.

“The direct and only object in conducting all these experiments is with the view of discovering means for the modification, prevention or cure of the disease which afflict those classes of animals experimented upon and ameliorating their lot generally.

“As I have already stated, we do not operate on any living animal for the purpose of solving any physiological problem. Should that be contemplated in the future, it would be under proper regulations at a licensed Institute established for the purpose.

“(Signed) D. HUTCHEON.”

In New South Wales the Noxious Microbes Act, 1900, makes it unlawful for any person to inoculate or otherwise infect any wild or domestic animal with any noxious and infectious microbes unless he is licensed by the Minister to do so.

5.

Two further letters have been received from the Colonial Office enclosing despatches from the Canadian Government in which it is stated that there is no Dominion legislation upon the subject of the performance of experiments on living animals, apart from the general law with reference to cruelty to animals, and that there are no Provincial or Territorial statutory enactments or regulations directly relating to this matter. There is, however, a Municipal Act of the Province of Ontario empowering Municipalities to pass byelaws for preventing cruelty to animals.

III.

FOREIGN COUNTRIES.

THE UNDER SECRETARY OF STATE FOR THE HOME DEPARTMENT to the UNDER SECRETARY OF STATE FOR FOREIGN AFFAIRS.

113,920.

Whitehall, December 11th, 1903.

SIR,—I am directed by Mr. Secretary Akers-Douglas to request that you will be so good as to move the Marquess of Lansdowne to ascertain, should he see no objection,

through His Majesty's representatives abroad, what restrictions, if any, are imposed by law in the several European countries and the United States of America on the performance of experiments on living animals.

Mr. Akers-Douglas would be obliged if he could be put in possession of this information by the middle of next month.

I am, &c. (Signed) HENRY CUNYNGHAME.

In reply to the above letter, the following Reports were received from the Foreign Office :—

AUSTRIA-HUNGARY.

MR. ALAN JOHNSTONE to the MARQUESS OF LANSDOWNE.

Vienna, *January 8th*, 1904.

MY LORD,—With reference to Your Lordship's Circular Despatch, marked Consular, of December 19th, 1903, I have the honour to transmit, herewith, a Memorandum relating to the restrictions imposed by law in Austria-Hungary on the performance of experiments on living animals.

Your Lordship will perceive from this Memorandum that the practice of vivisection is regulated in Austria by a Decree of the Ministry of Education, but that no restrictions of any kind exist on the subject in the Kingdom of Hungary.

I have, &c. (Signed) ALAN JOHNSTONE.

Memorandum on the restriction of vivisection in Austria and Hungary.

In Austria the practice of the vivisection of animals is legalised and regularised by a Decree of the Ministry of Education approved by the Ministry of the Interior and issued on July 17th, 1885. This Decree contains the following provisions :—

(1) Experiments on living animals (vivisections) are only to be made for the purpose of serious investigation; and exceptionally and in cases of absolute necessity for educational purposes.

(2) Such experiments may only be conducted in medical establishments authorised by the State.

(3) Directors of Institutes and Lecturers are alone allowed to conduct experiments in vivisection or to have them conducted under their supervision and on their responsibility by persons already advanced in scientific knowledge, *i.e.*, Doctors and Candidates for Medical Degrees.

(4) Animals used for experiments must always be completely anaesthetised when this is possible without prejudice to the object of the experiment.

(5) In case the lower order of animals are as well fitted for experiments as the higher order, the former only shall be used.

No Laws or Regulations exist in Hungary imposing restrictions on the practice of vivisection.

VIENNA, *January 8th*, 1903.

BADEN.

MR. A. HERBERT to the MARQUESS OF LANSDOWNE.

Darmstadt, *February 26th*, 1904.

MY LORD,—With reference to Your Lordship's Circular of December 19th last, instructing me to report to Your Lordship whether there were any laws respecting vivisection in the Grand Duchy of Baden, I have the honour to inform Your Lordship that there are no laws forbidding its practice, but that the Ministry of Justice and Education issued in 1887, an "instruction" to the Senate of the Universities of Heidelberg and Freiburg as to how it was to be carried out.

This "instruction" is as follows :—

1. Experiments on live animals are only to be made for important purposes in teaching.

2. Vivisection at lectures is only admissible when it is absolutely necessary for the understanding of the lectures.

3. It should be carried out only by the professors or their assistants, or by those who may happen to replace them.

4. Experiments which are unimportant should, as far as possible, be carried out on the "lower" classes of animals.

5. Anaesthetics should be used as far as possible.

I have, &c. (Signed) ARTHUR HERBERT.

BAVARIA.

MR. R. TOWER to the MARQUESS OF LANSDOWNE.

Munich, *January 4th*, 1904.

MY LORD,—In reply to your Lordship's Despatch of this series, Circular, of the 19th ultimo, I have the honour to transmit herewith a translation of a Report I have received from Baron von Liebig, one of the leading lawyers in Munich, on the subject of laws concerning vivisection in Bavaria.

I have, &c. (Signed) REGINALD TOWER.

Translation of a Report addressed by Baron von Liebig to His Majesty's Minister resident in Munich.

Munich, *January 4th*, 1904.

Bavarian laws are in force dealing with experiments on living animals.

These laws are founded on :—

1. The Penal Code of the German Empire; also on a law which obtains in the whole of Germany, and
2. A law of the Ministry of the Interior.

1a. Paragraph 360, No. 13, of the German Penal Code, provides that any person maliciously torturing or cruelly illtreating animals shall be punished. The penalty shall not exceed 150 marks (£7 10s.), or six weeks' imprisonment. It is incumbent on the Judge to decide the amount of the fine or the duration of the imprisonment.

Experiments which are made with animals otherwise than in the interests of science are punishable under these laws. This law is, however, very rarely applied in the case of scientific experiments.

2a. Experience shows that experiments with living animals are made only at Universities and educational establishments connected with the Universities.

The Bavarian Ministry of the Interior has issued regulations which have been brought to the knowledge of the Bavarian Universities. These regulations, dated January 19th, 1889, provide :—

A. That vivisection is only permitted in duly authorised medical establishments, but is forbidden in private dwellings.

B. That vivisection in these authorised official establishments may only take place at the hands of duly appointed officials, or under their supervision, by properly qualified scientists, whose aim is to conduct special investigations as to vivisection.

C. That anaesthetics must be applied to animals before the operation commences, unless such a procedure should interfere with its successful execution.

D. That vivisection may only be undertaken during such lectures as are necessary for scientific advancement, and for an exact comprehension of the organs of animals.

E. That should experiments with lower animals be sufficient the higher animals shall not be used.

BELGIUM.

SIR BROOKE BOOTHBY to the MARQUESS OF LANSDOWNE.

Brussels, *January 13th*, 1904.

MY LORD,—With reference to Your Lordship's Circular Despatch of this series of the 19th ultimo, containing instructions to report what restrictions, if any, are required by law in Belgium on the performance of experiments on living animals, I have the honour to inform Your Lordship that I have to-day received a Note from the Minister for Foreign Affairs stating that there are no regulations in existence in this country for the restriction of vivisection.

Experiments are made in the physiological and bacteriological laboratories of Belgium Universities as well as in those of the veterinary schools. Chloroform is generally used for operations which are very painful or of long duration.

Vivisection is only permitted in cases where it is necessary for scientific research, and persons practising it otherwise would render themselves liable to punishment under Article 561, 5° of the Penal Code, which applies to ill-treatment of animals.

I have, &c. (Signed) BROOKE BOOTHBY.

BULGARIA.

MR. C. M. MARLING to the MARQUESS OF LANSDOWNE.
Sofia, January 8th, 1904.

MY LORD,—In reply to Your Lordship's Circular Despatch of the 19th ultimo, I have the honour to report that there is no legislation whatever in regard to the performance of experiments on living animals in Bulgaria.

I have, &c. (Signed) CHARLES M. MARLING.

DENMARK.

SIR W. E. GOSCHEN to the MARQUESS OF LANSDOWNE.
Copenhagen, January, 2nd, 1904.

MY LORD,—In accordance with the instructions contained in your Lordship's Circular Despatch of this series of the 19th ultimo, I have the honour to transmit, herewith, a translation of the law which regulates the performance of experiments on living animals in Denmark.

I have, &c. (Signed) W. E. GOSCHEN.

Denmark: Translation of Vivisection Law of March 13th, 1891.

Section 1.

Experiments on warm-blooded animals which inflict pain (vivisection) must only be effected by those lecturers of the University or of the Royal Veterinary and Agricultural School, or other experts, who are licensed respectively by the medical section of the University and by the education council of the Royal Veterinary and Agricultural High School, and only on the premises established by the above-mentioned institutions for this purpose. The Minister of Justice shall be entitled to give permission to carry out such experiments in other places on the recommendation of, respectively, the medical section of the University or the education council of the Royal Veterinary and Agricultural High School.

The experts who have been licensed to carry out the experiments shall be entitled, with the sanction of the authority who has granted them the right, subject to the above-mentioned rules, to appoint substitutes to carry out the experiments, but they must, however, superintend and be responsible in such cases.

Section 2.

When carrying out the experiments mentioned in section 1, the following rules must be observed.

The trials must only be effected on animals which by narcotics have been brought in a condition of insensibility, which shall be maintained during the whole time of the experiment. The animal shall then be killed immediately after the cessation of the unconsciousness, provided the pain cannot be supposed to have disappeared entirely. However, the narcotization and the killing may be dispensed with if the purpose of the experiment would be fruitless if the animal was narcotized or killed after the cessation of the unconsciousness. In such cases the liability to kill the animal shall apply as soon as the object of the experiment has been reached.

Experiments made at lectures or for the teaching in technical training must only be effected on animals which have been narcotized, and the animal must always be killed before the cessation of the unconsciousness.

The rules laid down in this section shall not apply in cases where stabs or cuts are effected for the purpose of inoculating diseases or at bleeding experiments.

The expert who superintends the experiments must keep a journal, stamped by the authority who has granted him the right, which shall contain information as to the number and species of animals used, why the experiments have been effected, and what they have consisted in.

Section 3.

For infringements of this law fines of 100 to 500 kroner shall be inflicted, which in cases of repetition may be increased to 1,000 kroner.

If a person who has been fined twice for infringing this law is again found guilty of such infringement, it may be stipulated in the sentence that he must not in future carry out or be authorised to carry out such experiments. Sentences of such content shall, without regard to the amount of the fine inflicted, be subject to appeal before the Supreme Court.

Cases concerning infringements of this law shall be treated as public police court matters at Copenhagen in one of the Courts appointed to deal with criminal cases according to the rules laid down for public police court matters prior to the coming into force of the law of February 11th, 1863.

Be this known to all concerned, &c., &c.

FRANCE.

SIR E. MONSON to the MARQUESS OF LANSDOWNE.

Paris, January 13th, 1904.

MY LORD,—With reference to Your Lordship's Despatch Circular, Consular, marked Immediate, of December 19th, 1903, respecting the restrictions which are imposed by law in France on the performance of experiments on living animals, I have the honour to transmit herewith a copy of a note which I have received from M. Delcassé in reply to an enquiry which I had addressed to him on the subject.

His Excellency states, for the information of the Secretary of State for the Home Department, that no law exists in France relative to vivisection of animals in the interests of scientific research. The law of July 2nd, 1850, known as the law Grammont, has reference to illusage of domestic animals. This law does not apply to experiments performed in private, and experiments held in public only come under its application when they are attended with excessive cruelty.

I have, &c. (Signed) EDMUND MONSON.

Enclosure.

M. DELCASSÉ to SIR E. MONSON.

Paris, le 12 Janvier, 1904.

M. L'AMBASSADEUR,—A la date du 24 Décembre dernier, Votre Excellence avait bien voulu m'exprimer le désir de recevoir, pour le Home Office, des renseignements sur les restrictions qui pourraient être imposées, en France, par les lois et règlements au droit de faire des expériences sur les animaux vivants.

J'ai l'honneur de vous faire connaître qu'il n'existe dans la législation française aucune disposition relative à la vivisection des animaux dans l'intérêt d'études scientifiques.

Le loi du 2 Juillet, 1850, dite loi Grammont, se réfère aux mauvais traitements exercés envers les animaux domestiques. Cette loi ne saurait s'appliquer dans le cas d'expériences qui n'ont pas lieu publiquement ou qui, lorsque celles-ci seraient publiques, ne sont pas faites abusivement, cette double condition est nécessaire à l'application de la loi de 1850.

J'ai l'honneur de porter ces informations à la connaissance de Votre Excellence, en la priant de vouloir bien les faire parvenir au "Home Office."

Agréez, &c. (Signed) DELCASSÉ.

GERMANY.

SIR F. LASCELLES to the MARQUESS OF LANSDOWNE.

Berlin, January 9th, 1904.

MY LORD,—With reference to your Lordship's Circular Despatch of this series of the 19th ultimo, I have the honour to transmit herewith for the information of the Home Office a report drawn up by Dr. Schneider, legal adviser to His Majesty's Embassy, concerning restrictions imposed by law on the performance of experiments on living animals in Germany.

I have, &c. (Signed) FRANK C. LASCELLES.

REPORT.

The question as to what restrictions exist in Germany and Prussia respecting the performance of experiments on living animals must be considered under the more general question as to what prescriptions exist for the prevention of cruelty to animals.

For this purpose section 360, No. 13, of the Imperial Penal Code may be considered the first and principal provision made in this particular by the Imperial law. This runs as follows:—

Section 360. "A fine not exceeding 150 marks or imprisonment is inflicted on those persons who

No. 13, publicly or maliciously illtreat animals in a manner to excite public indignation."

Experiments on living animals are forbidden and punishable in so far as they are an infringement of this regulation. The provisions of section 360, No. 13, of the Imperial Penal Code are the only Imperial German regulations which are applicable in all cases referred to in this paragraph.

In addition to this general prohibition contained in section 360, however, here exist also a number of supplementary special provisions in the German Empire and the several Federal States against cruelty to animals which are according to opinions prevailing in theory and practice in force, besides the said section 360 Penal Code.

In this regard the special laws respecting vivisection, which will now be considered, are of interest. The regulations as to the slaughter of animals, particularly those referring to Jewish rites, follow. At the end of this report, certain questions which come under the head of cruelty to animals, and the regulations affecting them in force in the Empire and in the separate Federal States, will be considered, though they affect only indirectly the question at issue. This Report has for its basis the exhaustive work of Dr. Robert von Hippel, "*Die Tierquälerei*" (Cruelty to Animals).

I.—*Vivisection.*

In the first half of the eighties of the preceding century an agitation, in some respects unreasonable and extravagant, was set on foot against scientific experiments on animals, and was brought before the legislative bodies.

In the years 1880 and 1882 the Petition Commission, and following them the Plenum of the Reichstag (Imperial Diet), put these and similar petitions aside and proceeded to the order of the day. The petitioners then applied to the Prussian Chamber of Deputies. Here the Commission for educational matters confirmed the lawfulness of vivisection from an ethical point of view, and also moved that the order of the day should be proceeded with (compare printed reports of the Prussian Chamber, 1882, 1883, No. 82).

A very detailed and lively discussion took place on April 16th, 1883, in which the representatives of the Government emphatically took their stand on the ground that the necessity and utility of vivisection according to the judgment of experts must be acknowledged and conceded, and that therefore a prohibition of the same would be inopportune and impracticable. Any abuses detected could be dealt with by the profession in a disciplinary manner, but no proof of such abuses had been laid before the House.

The Chief of the department in the Ministry for Public Education (Dr. Althoff) at this meeting embodied the opinion of the Government in the following statement:—

"It is an elementary thesis, both of religion and ethics, that man may use the lower animals for his own purposes in a reasonable manner, by wearing them out, by using them, or by consuming them."

In consequence of this the Prussian Chamber threw out a petition which had for its purpose a considerable limitation and restriction of vivisection. On the other hand, the proposal of the Commission to proceed at once to the order of the day was not favourably received. The following resolution resulted, which was accepted:—

"The petition involving the question in which degree vivisection in the medical instruction at the medical colleges can be dispensed with, may be presented to the Government in order that it may decide whether any regulations against the abuse of vivisection can be provided by the Imperial legislation."

The result of this resolution was an Enquete, which was on December 13th, 1883, delivered to the Faculties of Medicine on the Prussian Universities by the Minister.

Eleven questions were laid before the Faculties for report thereon. The results of this Report formed the basis of a decree on vivisection communicated by the Minister on the 2nd February, 1885, to the Faculties of Medicine at the Prussian Universities.

In this decree the Minister expresses first of all that he has been strengthened by the Report referred to in his conviction that the performance on living animals is carried out in the Prussian Universities in conformity with moderate and reasonable principles.

In addition to the already existing usages the Minister

wished, in order to remove all doubt for the future, that the following rules should be enforced:—

1. Experiments on living animals may only be made for the purposes of real scientific research, or for important pedagogic demonstrations.

2. The experiments during the lectures are only to be made when and as far as they are necessary for the proper demonstration of the same.

3. The operative preparations for the lecture experiments are, as a rule, to be made before the beginning of the actual demonstration and in the absence of the audience.

4. Experiments on animals may only be made by professors and lecturers (docenten) or on their personal responsibility.

5. Experiments on which the result is not appreciably different if made on a lower organised animal must be made on this, and not on a more highly organised animal.

6. In every case, except in those in which the experiment would be thereby rendered futile, the animal must be thoroughly and for a sufficient time rendered insensible by anæsthetics.

Similar regulations are in force in the other Federal States to prevent the abuse of vivisection; in Bavaria they existed as early as 1880.

The only further success which attended the efforts of the anti-vivisectionists, who were not at all satisfied with the issue of the above regulations, and proceeded again on February 25th, 1885, in the Prussian Chamber, and on the 20th March, 1886, in the Herrenhaus, with their representations and propositions to combat the scientific torture of animals; considered in a rescript (14th March, 1886) by the Minister of Agriculture, Domains and Forests, which declared the decree of the Minister of Education also as competent for the veterinary high schools and the Agricultural Academy.

"Vivisection, therefore, in the Empire and in Prussia, is doubtless an indisputable professional right, acknowledged as such by State and Society, in so far as it is undertaken and practised by scientifically educated men for serious scientific purposes, and within prescribed limits" (see von Hippel, page 136). The system attempted in England of subjecting vivisection to police license and concession (according to the Law 39 and 40, Vic., c. 77) was not adopted in Prussia and in the Empire, it not being considered advisable to subject science to police interference (compare Kohler "*die Tiere im Recht*" in the *Gerichtssaal*, Vol. 47, year 1892, pages 32 and following).

II.—*Slaughter of Animals with special reference to the Jewish Ritual.*

Regulations have long existed in the single Federal States respecting the procedure to be observed in slaughtering animals for food. The Society for the Prevention of Cruelty to Animals gave the stimulus for several debates on this subject. In 1887 the Munich Society for the Prevention of Cruelty to Animals, and in 1879 and 1881 a congress of German Societies of like nature, made propositions for preventing useless cruelty by the slaughter of animals for food.

In the Session of 1885–1886, and in the following year, the Union of German Societies for the Prevention of Cruelty to Animals petitioned the Reichstag for the adoption of the following regulations:—

"That cattle could only be slaughtered by bleeding to death after having been previously rendered insensible to pain.

"That slaughter only be performed by certificated licensed persons, in the public slaughter-houses only by appointed slaughterers."

Nearly 2,000 Jewish congregations petitioned against these propositions as being obnoxious to the religious scruples of the Jewish population. In consequence, the Commission and the Plenum of the Reichstag refused to take any steps in the matter. On the other hand the Reichstag on May 18th, 1887, decided, in order to introduce, if possible, Legislative Regulations against the torture of animals by slaughter:—

"To present the petition of the Animal Protection Societies to the Reichskanzler for consideration as to whether, and in what manner, the abuses referred to could be prevented by an alteration or amendment of

the penal code; in so far however as the petition affected the Jewish slaughterers to proceed to the orders of the day."

This resolution resulted in the publication of further regulations on the part of the authorities of the different Federal States. The Ministerial Decrees of January 14th, 1889 (concerning Regulations for the Prevention of Unnecessary Cruelty to Animals by the Jewish method of cattle slaughter) of December 16th, 1889, and March 25th, 1890 (concerning Regulations for the Prevention of Useless Cruelty by the slaughter of cattle) were transmitted to the several Government authorities.

It is not necessary to give here more particulars on these regulations.

III.—Various other Regulations against Cruelty to Animals.

(1) The communication of the Imperial Chancellor's Office of July 13th, 1879, respecting the regulations as to the transport of living animals by railway (Central-Blatt für das Deutsche Reich 1879, p. 479).

(2) In Prussia and in the other Federal States a large number of regulations exist concerning the transport of animals which are transported on railways.

(3) Regulations exist as to the use of dogs as beasts of draught, as to the use of worn out or lame animals for draught or burden, and against over-loading.

(Signed) DR. VICTOR SCHNEIDER.
Berlin, January 9th, 1904.

GREECE.

MR. DES GRAZ to the MARQUESS OF LANSDOWNE.
Athens, January 2nd, 1904.

MY LORD,—In reply to Your Lordship's Circular Despatch of this series of the 19th ultimo, I have the honour to report that there is no law in Greece on the subject of the performance of experiments on living animals.

I have, &c. (Signed) CHARLES DES GRAZ.

HESSE.

MR. A. HERBERT to the MARQUESS OF LANSDOWNE.
British Legation, Darmstadt, January, 7th, 1904.

MY LORD,—In reply to Your Lordship's Consular Circular of December 19th, I have the honour to inform your Lordship that in the Grand Duchy of Hesse there are no special laws or ordinances in regard to vivisection.

I have, &c. (Signed) ARTHUR HERBERT.

HOLLAND.

SIR H. HOWARD to the MARQUESS OF LANSDOWNE.
The Hague, January 19th, 1904.

MY LORD,—With reference to Your Lordship's Circular Despatch of this series of the 19th ultimo, I have the honour to transmit herewith a copy of a note from Baron Melvil de Lynden, stating that there exist no legal restrictions in the Netherlands on the performance of experiments on living animals.

His Excellency encloses, however, the text of Article 254 of the Netherlands Penal Code as to ill-treatment of animals, which does not apply to ill-treatment with a scientific object, and a Decree of the Minister of the Interior of September 3rd, 1903, as to Vivisection in Universities, &c., translations of which I have the honour to forward.

I have, &c. (Signed) HENRY HOWARD.

Enclosure 1.

BARON MELVIL DE LYNDEN to SIR H. HOWARD.
La Hague, le 9 Janvier, 1904.

MONSIEUR LE MINISTRE,—Par son Office du 24 Décembre dernier Monsieur Leveson-Gower a bien voulu me demander si la législation des Pays-Bas contient quelque restriction des opérations tentées sur des animaux vivants à titre expérience scientifique.

En réponse j'ai l'honneur de faire savoir à votre Excellence qu'il n'existe dans les Pays-Bas aucune disposition légale de la teneur sus-visée.

L'article 254 du Code Pénal néerlandais dont j'ai l'honneur

dé joindre ci-près le texte, accompagné d'une traduction française, réprime le maltraitement d'animaux mais ne s'applique pas à celui qui fait souffrir un animal dans un but scientifique.

En ce qui concerne l'enseignement aux Universités de l'état, la matière a fait l'objet d'une ordonnance du Ministre de l'Intérieur du 3 Septembre dernier dont Votre Excellence trouvera sous ce pli une copie.

Veuillez, &c. (Signed) BARON DE MELVIL DE LYNDEN.

Enclosure 2.

Article 254 of the Netherland Penal Code.

No. 254. Celui qui maltraite un animal, est puni d'un emprisonnement de trois mois au plus ou d'une amende de cent vingt florins au plus.

Si l'infraction est commise en public, la peine est augmentée d'un emprisonnement de quatre mois au plus ou d'une amende de cent vingt florins au plus.

Si au moment où l'infraction est commise, il ne s'est pas encore écoulé deux ans depuis qu'une condamnation du coupable à raison de la même infraction est devenue irrévocable la peine de l'emprisonnement peut être augmentée d'un tiers.

La tentative de cette infraction n'est pas punissable.

Enclosure 3.

Decree of the Minister of the Interior.

The Hague, September 3rd, 1903.

THE MINISTER OF HOME AFFAIRS.

With reference to Article 48, second clause, of the law for the regulation of Higher Education, and also to Article 16 of the regulations for the control and use of collections, institutions, and accessories for educational purposes at the Universities of the Realm, which regulations were established by the Royal Decree of the 31st December, 1879 (No. 24), and of the 20th December, 1884 (No. 15).

Having perused the reports by Curators of the National Universities at Leiden, Utrecht, and Groningen, dated 10th July, 1903 (No. 491), 4th June, 1904 (No. 317), and 10th July, 1903 (No. 272);

And considering that it is necessary, with regard to the use of collections, institutions, and accessories for educational purposes in the Faculties of Medicine, and of Mathematics and Natural Science at the National Universities, to establish special rules concerning experiments upon living animals, has resolved to establish the following instructions with regard to the use of collections, institutions, and accessories for educational purposes in the Faculties of Medicine, and of Mathematics and Natural Science at the National Universities, with reference to experiments upon living animals:—

Article 1.

Experiments upon living animals may be performed only when they may be considered definitely indispensable for scientific inquiry or for education.

If they serve for educational purposes, then as a general rule the operation on the living animal must be performed outside the lecture hall and before the beginning of the lecture.

Article 2.

They may be performed only by professors, lecturers, and other instructors, or else by doctorandi,* surgeons, and assistants, on the responsibility and under the direction of the professor or lecturer.

Article 3.

For experiments which, without detriment to the result, can be performed upon animals of lower orders, the latter only, and no higher animals, may be used.

Article 4.

Before every experiment as referred to in Article 1, the animal to be experimented on must be rendered insensitive to pain by means of anæsthetics of sufficient strength.

Curare, also called Urari, shall not be regarded as an anæsthetic.

* "Doctorandi" are candidates for the degree of Doctor who have completed their course, with the exception of the *viâd-voce* examination, for promotion to the full degree.

Departure from this rule shall only be permitted when the operation is performed by the professor or lecturer, and the scientific object aimed at cannot be attained during narcosis.

Article 5.

The animals must be killed immediately after the completion of the experiment, except in cases where no serious injury has been inflicted on them and it is certain that the pain will not last.

ITALY.

SIR F. BERTIE to the MARQUESS OF LANSDOWNE.

Rome, *February 4th*, 1904.

MY LORD,—On the 26th of December I received Your Lordship's Consular Circular dated the 19th of that month instructing me to furnish a Report respecting the restrictions, if any, which are imposed by law in Italy on the performance of experiments on living animals.

I thereupon addressed a note to the Minister for Foreign Affairs requesting His Excellency to supply me with the information desired by His Majesty's Government, and stating that I was instructed to supply your Excellency with a Report on the subject by the middle of January, if possible.

To-day I received a note from Monsieur Tittoni to the effect that he had lost no time in communicating my request to the Ministry of Public Instruction, and that in reply he had received from that Department under date of the 26th ultimo a note of which I have the honour to enclose a copy and translation.

I have, &c. (*Signed*) FRANCIS BERTIE.

Enclosure i.

THE MINISTRY OF PUBLIC INSTRUCTION to the MINISTRY OF FOREIGN AFFAIRS.

Rome, *January 26th*, 1904.

I hasten to inform you that no law has ever been promulgated in Italy and that no Government measure has ever been published imposing restrictions on the performance of experiments on living animals.

Only in June, 1886, in consequence of the observations made by the Ministry of the Interior, on the advice of the Superior Council, the Circular of which I transmit a copy was issued with regard to operations on living animals in the veterinary schools of the Kingdom. I can, however, assure you that in the University Institutions only those operations are performed on animals which are considered indispensable, and that the animals are spared as far as possible by chloroform, narcotics, and injections of cocaine, morphia, and other anæsthetics.

Enclosure ii.

Circular addressed by the Minister of Public Instruction to the Veterinary Schools in Italy, January 26th, 1888.

Owing to a protest against the practice of operations on living animals, this Ministry requested the opinion of the Superior Council of Instruction on the subject. The latter declared themselves to be in favour of the system actually in force, maintaining that it is indispensable for the veterinary operator to experiment upon the living body.

Further complaints have been received by the Ministry of the Interior in which it is moreover asserted that on successive days several operations are performed on the same animal, the animal thus being kept in a state of continued suffering.

The Ministry of the Interior which, recognising the necessity of surgical operations on living animals, consider, however, as quite abnormal the fact that the same animal should serve for several operations on successive days, which results in needless suffering, that might be avoided by a slight increase in expense. They recommend, therefore, that care should be taken to have the animal killed as soon as the experimental operation is finished. Furthermore, to make the animals insensible to the operations, the Ministry of the Interior, while recognising the difficulty of applying anæsthetics by the ordinary means, recommend the injection of chloral in the veins in such quantities as may be considered advisable and as the school itself may deem reasonable for the successful performance of the operation, according to the weight and

the condition of the animals. Such a procedure, while insuring a rapid application of the anæsthetic to the animal, is quite simple and entails but little expenditure.

I do not hesitate to recommend to this school the adoption of these measures, which, while not fettering in any way the course of instruction, may spare the animal prolonged suffering, and I shall be obliged if you will inform me what facilities your school may have for applying the measures above referred to.

The Minister (*Signed*) MARIOTTI.

PORTUGAL.

SIR M. GOSSELIN to the MARQUESS OF LANSDOWNE.

Lisbon, *February 2nd*, 1904.

MY LORD,—With reference to your Lordship's Consular Circular of the 19th of December last, I have the honour to inform Your Lordship that His Excellency the Minister for Foreign Affairs, in a note dated the 30th ultimo, has assured me that there are no restrictions imposed by law in Portugal on the performance of experiments on living animals.

I have, &c. (*Signed*) MARTIN GOSSELIN.

ROUMANIA.

SIR J. G. KENNEDY to the MARQUESS OF LANSDOWNE.

Bucharest, *January 5th*, 1904.

MY LORD,—I have the honour to acknowledge the receipt of Your Lordship's Circular Despatch, marked Circular and Immediate, of the 19th ultimo, enclosing the copy of a letter from the Principal Secretary of State for the Home Department, and requesting to be furnished with a Report respecting the restrictions, if any, which are imposed by the laws of Roumania on the performance of experiments on living animals.

I now have the honour to report that I am informed by the Ministry for Foreign Affairs that no laws or restrictions of any kind exist in this country in the sense indicated by the enquiry of the Home Office.

I have, &c. (*Signed*) J. G. KENNEDY.

RUSSIA.

SIR C. SCOTT to the MARQUESS OF LANSDOWNE.

St. Petersburg, *January 1st*, 1904.

MY LORD,—I have the honour to acknowledge the receipt of Your Lordship's Circular Despatch of this series of the 19th ultimo, marked "Immediate," requesting, on behalf of the Home Office, information respecting the restrictions, if any, imposed by law in Russia on the performance of experiments on living animals.

I have the honour to report in reply that there is at present in Russia no special law regulating the performance of scientific experiments on living animals.

There is, however, in Article 43 of the Penal Code a general prohibition of cruelty to domestic animals of which the following is a translation:—

"Persons guilty of inflicting needless cruelty on domestic animals are liable to a fine of not more than ten roubles." (Regulation of Penalties imposed by Police Magistrates. Code of Laws of the Russian Empire, Volume XV., 1885.)

I have, &c. (*Signed*) CHARLES S. SCOTT.

SAXONY.

LORD GOUGH to the MARQUESS OF LANSDOWNE.

Dresden, *January 16th*, 1904.

MY LORD,—In compliance with Your Lordship's instructions of the 19th ultimo, I have the honour to transmit a Report on the restrictions imposed in the Kingdom of Saxony on the performance of experiments on living animals.

I am indebted to the courtesy of the Minister for Foreign Affairs for the prompt collection of the information contained in this Report.

I have, &c. (*Signed*) GOUGH.

Report upon the restrictions imposed in the Kingdom of Saxony on the performance of experiments on living animals.

There is no statute in force in this Kingdom restricting experiments on living animals.

In 1883 an injunction was issued to the Veterinary High School at Dresden as follows:—

Any experiments on animals causing pain can only be carried out by the teachers, or at least under their direct superintendence, and must be limited to what is unavoidably necessary, and must only be undertaken when a really practical result can be positively counted upon. Moreover, no experiment whatever coming under the heading of cruelty is to be at all tolerated.

Further, in the year 1885, an injunction was issued in the same place to the following effect:—

1. During the lectures experiments on animals are only so far permissible as may be necessary for the full understanding of the lecture.

2. In case of such experiments being required for the lectures, the rule is that preparations for operations are to be carried out before the actual demonstrations, and in the absence of the students.

3. Experiments on animals which can without material loss of result be made on the lower class of animals may only be made on this class, and not on the higher class of animals.

4. In all cases wherein it is not absolutely irreconcilable with the object of the experiment, the animals must before the experiment be made completely and durably unconscious by anæsthetics.

Similar regulations to the above were, at the same time, enjoined upon the Medical Faculty of the University of Leipzig.

SERVIA.

MR. W. G. THESIGER to the MARQUESS OF LANSDOWNE.
Belgrade, *December 31st*, 1903.

MY LORD,—I have the honour to report that no restrictions are imposed by law on the performance of experiments on living animals in this country, where vivisection is very rarely practised.

I have, &c. (Signed) WILFRED G. THESIGER.

SPAIN.

SIR E. EGERTON to the MARQUESS OF LANSDOWNE.
Madrid, *March 29th*, 1904.

MY LORD,—In reply to Mr. Adam's Despatch of this series, No. 7 of the 8th ultimo, I have the honour to report that I have to-day received a note from the Spanish Minister of State, informing me that there is no legislation in this country for the regulation of experiments on living animals.

I have, &c. (Signed) EDWIN H. EGERTON.

SWEDEN AND NORWAY.

(i.)

SIR W. BARRINGTON to the MARQUESS OF LANSDOWNE.
British Legation, Stockholm, *January 8th*, 1904.

MY LORD,—With reference to Your Lordship's Despatch of this series, marked Circular, of the 19th ultimo. I have the honour to report that in neither Sweden nor Norway is there any special law imposing restrictions on the performance of experiments on living animals. In both countries cruelty to animals entails penalties, but the laws on the subject seem to be limited in their application to domestic animals in ordinary circumstances and not to deal with cases occurring in the laboratory.

As regards experiments on living animals conducted in the interests of science, I am given to understand that in practice anæsthetics are employed, but there does not seem to be any absolute rule observed, recourse to such means of allaying suffering being, as far as I can gather, at the discretion of the experimenter.

I have, &c. (Signed) WILLIAM A. C. BARRINGTON.

(ii.)

SIR W. BARRINGTON to the MARQUESS OF LANSDOWNE.
British Legation, Stockholm, *March 24th*, 1904.

MY LORD,—In continuation of my Despatch of this series, No. 3 of the 8th of January, I have the honour to inform Your Lordship that according to the new Norwegian Penal Code, which comes into force on the 1st of

next year, anyone guilty of deliberate cruelty to animals, or of aiding or abetting therein, by neglect, maltreatment, or otherwise, will be liable to a fine or to a term of imprisonment not exceeding six months. This provision, however, is not to restrict the Sovereign, or anyone to whom the royal authority may be delegated, from granting special permission to special persons for conducting experiments for scientific purposes which may entail suffering on animals.

I have, &c. (Signed) WILLIAM A. C. BARRINGTON.

SWITZERLAND.

SIR CONYNHAM GREENE to the MARQUESS OF LANSDOWNE.
Berne, *March 11th*, 1904.

MY LORD,—In obedience to the instructions contained in Your Lordship's Circular of the 19th of December last with reference to the restrictions, if any, which are imposed by Swiss law on the performance of experiments on living animals, I have the honour to report that the Cantons of Geneva and Zurich are the only ones in which legislation on the subject has been enacted.

In the Canton of Berne a proposal in support of vivisection was submitted to the Popular Referendum in the month of February last year, but was rejected by the people; while in the Canton of Vaud the law of 30th November, 1876, for the protection of animals implies protection from vivisection.

Copies of the Bernese proposal and of the law of the Canton of Vaud are enclosed, together with translations of the police enactments of the Cantons of Geneva and Zurich, imposing restrictions on the performance of experiments on living animals.

I have, &c. (Signed) CONYNHAM GREENE.

Enclosure i.

Police Regulations on the Geneva Vivisection Theatre.

September 17th, 1878.

Article 6.

With the exception of the premises of the Faculty of Medicine, no room for the demonstration of vivisection, or operations conducted upon living animals, may be made use of without previous notice to the Department of Justice and Police.

The Department will take steps to ensure the use, as far as possible, of anæsthetics and of the most elaborate instruments in all vivisections.

Article 7.

No pound-master may deliver up, for purpose of vivisection, any animal which has been shut up, without special sanction from the Department, which will only grant the same when no claim for this animal has been lodged within forty-eight hours.

Article 8.

Contraventions of the above regulations are punishable by police penalties.

Enclosure ii.

(Translation.)

Zurich Regulations on Vivisection.

1. Vivisections, *i.e.*, the performance of operations accompanied by loss of blood on living animals, as well as all experiments tending to change the conditions of life of such animals so as to produce temporary or permanent pain, are only sanctioned in pursuit of scientific discovery and demonstration.

2. Vivisections for which permission has been granted may only be performed in specified institutions and sections of the Cantonal Medical and Educational Establishments.

3. The performance of such vivisection is only allowed to the directors and teachers of the above-named establishments, and to their assistants according to regulation and under the special supervision and responsibility of the former.

4. Vivisection must be reduced to the smallest possible dimensions. A detailed description of the number and object of the vivisections, as well as of the nature of the animals experimented upon, must be supplied by the directors and teachers. This description must be submitted at the end of every half year to the Board of Education for reproduction in the Report of Accounts.

5. Experiments upon all animals are, when possible, only to be performed once, and to be conducted painlessly by sufficient anæsthetics.

6. The following are not considered as falling under the above regulations, viz. :—

(a) Such operations as are necessary for the preservation and cure of stock for ordinary agricultural purposes.

(b) Injections for the purpose of examining, preventing, or curing illness whether of human beings or animals.

7. Contraventions of the above regulations are punishable by fines of from 10 to 500 francs (8 shillings to 20 pounds) according to the amount of pain caused to the animal or the cruelty of the treatment on the occasion complained of: such fines to be doubled in bad cases and to be coupled with imprisonment up to three months.

In trifling cases the fine may as an exception be reduced to five francs (4 shillings).

Zurich, September 13th, 1897.

Enclosure iii.

CODE PENAL DU CANTON DE VAUD.

Article 139.

Celui qui cause un scandale public en se livrant à des mauvais traitements graves ou à des actes de cruauté contre un animal, sans que le fait soit réprimé par une disposition spéciale de la loi, est puni par une amende qui ne peut excéder soixante francs, ou par un emprisonnement qui ne peut excéder quinze jours.

[This article of the Penal Code was supplemented by the Law of November 30th, 1876, which forbids specifically certain acts likely to cause suffering to animals.]

Enclosure iv.

Message du Grand Conseil du canton de Berne au Peuple bernois.

CHERS CONCITOYENS,—Il existe actuellement dans notre canton deux décrets qui ont pour but de protéger les animaux contre les mauvais traitements. L'un de ces décrets date de 1844, l'autre de 1857.

De divers côtés cependant s'est manifesté dans ces dernières années le désir de voir les dispositions pénales qu'ils contiennent rendues à la fois plus sévères et plus générales.

C'est pour répondre à ce légitime désir que nous avons élaboré la loi qui est soumise aujourd'hui à votre approbation.

Maltraiter les animaux, c'est, en effet, pécher contre la morale, c'est avilir la dignité humaine.

Aussi le Grand Conseil espère-t-il qu'en aggravant les peines attachées à ce délit, il sera approuvé par la majorité du peuple bernois.

Comme les mauvais traitements envers les animaux trahissent toujours une perversion du sens moral, nous n'avons par cru devoir faire du scandale public qu'ils peuvent causer la condition de l'intervention du juge.

Nous avons abandonné également la nomenclature des cas de mauvais traitements, attendu qu'une telle nomenclature est toujours incomplète.

Enfin nous n'avons pas cru devoir admettre dans notre projet la manière de voir de ceux qui condamnent sans réserve les expériences scientifiques pratiquées sur des animaux vivants. Nous envisageons, au contraire, que ces expériences sont de la plus haute importance et qu'elles constituent, quand elles sont faites par des personnes compétentes, un moyen indispensable pour arriver à déterminer les causes des maladies humaines et pour former les jeunes gens qui suivent les cours de nos facultés de médecine. Toutefois, et à l'instar de ce qui s'est fait dans les cantons de Zurich et de Genève, nous avons assimilé aux mauvais traitements les abus qui pourraient être commis de ce chef.

Quant aux opérations ou injections pratiquées sur les animaux afin de s'assurer de leur état sanitaire, de les préserver de maladies ou de les guérir de celles dont ils sont atteints, elles ne sont pas plus répréhensibles que celles que l'on est obligé de faire parfois sur l'homme lui-même. Nous avons pensé utile de déclarer d'une façon formelle qu'elles ne sont pas interdites.

Nous estimons donc que la loi qui vous est soumise renferme toutes les dispositions nécessaires en vue d'atteindre son but et la recommandons chaleureusement à vos suffrages.

Loi concernant la protection des animaux. Le Grand Conseil du canton de Berne, sur la proposition du Conseil-exécutif.

DÉCRÈTE :

Article 1.

Quiconque maltraite brutalement des animaux, les néglige de façon cruelle, ou les fait sans pitié travailler au-dessus de leurs forces, et quiconque incite à ces actes, se rend coupable de mauvais traitements exercés envers les animaux et sera puni d'un emprisonnement pouvant aller jusqu'à 30 jours et d'une amende de 5 fr. à 150 fr. Dans les cas de très peu de gravité, il sera facultatif au juge de n'appliquer que l'amende.

Article 2.

Dans l'application des peines, on prendra pour base la gravité du scandale causé et des tourments infligés à l'animal, comme aussi le degré de méchanceté ou de perversité morale dont aura fait preuve l'auteur des mauvais traitements,

Article 3.

Les expériences sur des animaux vivants ne sont permises que si elles ont pour objet des recherches scientifiques et que si elles ont lieu pour les besoins de l'enseignement.

Les expériences doivent se limiter au strict nécessaire et être rendues aussi peu douloureuses que possible.

Le même animal ne sera soumis, autant que faire se pourra, qu'une seule fois à des expériences.

Les infractions à ces prescriptions seront considérées et punies comme mauvais traitements exercés envers les animaux.

Article 4.

Les opérations ci-après désignées ne sont pas considérées comme des expériences au sens de l'art. 3 de la présente loi et ne sont en conséquence pas interdites :—

(a) Les opérations qu'exige l'élevage du bétail et celles que doivent pratiquer les vétérinaires ;

(b) Les injections faites dans le but de rechercher, de prévenir ou de guérir des maladies.

Article 5.

La présente loi entrera en vigueur après son acceptation par le peuple, le 1^{er} mars 1903. Elle sera publiée de la manière accoutumée et insérée au Bulletin des lois.

Elle abroge les décrets du 2 décembre 1844 et du 26 juin 1857, ainsi que l'arrêté du Conseil-exécutif du 13 janvier 1894.

Berne, le 26 novembre, 1902.

Au nom du Grand Conseil :

Le Président. P. JACOT.
Le Chancelier. KISTLER.

TURKEY.

SIR N. O'CONOR to the MARQUESS OF LANSDOWNE.

Constantinople, January 23rd, 1904.

MY LORD,—With reference to Your Lordship's Circular of this series of the 19th ultimo, I have the honour to report that no regulations exist in this country with regard to the performance of experiments on living animals.

I have, &c. (Signed) N. O'CONOR.

UNITED STATES OF AMERICA.

Copy of a letter from the Legal Adviser of His Majesty's Embassy at Washington.

Washington, D.C. March 10th, 1904.

SIR,—I have the honour to acknowledge Mr. Wyndham's communication of the 27th February, forwarding a Despatch with its enclosures from His Majesty's Principal Secretary of State for Foreign Affairs, dated December 19th, 1903, enquiring what restrictions, if any, are imposed by law in the United States on the performance of experiments on living animals.

I am requested to report to Your Excellency if there is any Federal legislation on the subject, and also whether there is any State legislation dealing with the matter.

The only Federal legislation on the subject which I have been able to find after a careful examination of the Statutes, is contained in a provision in an Act of the former Legislature of the District of Columbia, having the force of law in this District by virtue of acts of Congress, and this legislation only bears indirectly on the subject.

The Act of August 23rd, 1871, of the Legislative Assembly of the District of Columbia was an Act for the prevention of cruelty to animals, and after prohibiting cruelty generally, and certain specific acts of cruelty, provided in the eleventh section—

“That nothing in this Act contained shall be construed to prohibit or interfere with any properly conducted scientific experiments or investigations, which experiments shall be performed only under the authority of the faculty of some regularly incorporated medical college, university, or scientific society.”

The effect of this proviso was simply to except from the provisions of the statute scientific experiments or investigations when conducted under the described authority; otherwise the subject is without legislative regulation or restriction by the Congress of the United States.

With reference to the legislation of the various States of the Union, I have made an investigation at the Law Library of Congress, and find that no compilation, book, or treatise on the subject has ever been published.

The information, therefore, as to legislation on this subject in the various States can only be ascertained by an examination of the Statute law of each of the forty-five States. This examination would involve considerable labour and consume many weeks of time, and I have thought it better not to enter upon the work unless I am advised that Your Excellency desires an examination and report of that extent.

The enclosures in Mr. Wyndham's communication are herewith returned.

I have, &c. (Signed) WM. G. JOHNSON.

His Excellency

The Right Honourable

Sir H. M. Durand, G.C.M.G., G.C.S.I.,

&c., &c., &c.

[N.B.—It was not considered necessary to proceed with the enquiry as to legislation on the subject in the various States.]

NOTE BY THE ROYAL COMMISSION.

The Royal Commission were subsequently informed, in July, 1911, by the Home Office, that the only Foreign or Colonial Law respecting Vivisection which had reached that Department since the preparation of the above Report was an Act of South Australia, a copy of the relevant portion of which is attached.

Extract from an Act of South Australia for the Prevention of Cruelty to Animals, 1908.

18. Except as hereinafter provided, nothing in this Act contained shall apply to any act done in any of the following cases :—

(d) In any experiment or vivisection performed upon any animal by any legally qualified medical practitioner or veterinary practitioner, or any officer appointed by the Governor in Council, for the purposes of scientific investigation; Provided that the Governor in Council may, from time to time, make regulations for the registration of those practitioners who shall be

permitted to perform such experiments or vivisection, and for the humane conduct of their operations.

(e) In any operation of the nature of an inoculation or of a feeding experiment.

The exemption in this section contained shall not take effect :—

(a) In any case of ill-treatment; or

(b) In any case of vivisection or other experiment as described in subsection (d) wherein the following conditions are neglected, that is to say :—

(i.) The operations shall be performed in accordance with the said regulations.

(ii.) The animal subject to the operation shall during the whole time thereof be so under the influence of some anæsthetic as to be insensible to pain :

(iii.) When the animal has in the course of the operation been so injured that its recovery would involve serious suffering, it shall be destroyed while still insensible.

**REMAINDER OF SIR WILLIAM BYRNE'S PRÉCIS OF EVIDENCE NOT PRINTED IN
VOLUME I. OF EVIDENCE.**

ADMINISTRATION OF THE ACT.

The provisions of the Act are administered by the Home Office with punctilious care and strictness, the personal directions of the Home Secretary being sought on every question of any moment which arises.

Fresh licences and certificates are in all cases laid before an Under Secretary of State, and are not granted or allowed to come into operation without his authority. Every proposed investigation of a novel, important, or specially painful character is submitted by the Under Secretary to the Home Secretary personally.

The power given by Section 8 of the Act to annex conditions to a licence is systematically exercised, with the object of minimising the pain which the animals experimented on might suffer.

One condition in universal use requires that no operative procedure more severe than simple inoculation or superficial venesection may be adopted without anæsthetics.

A second condition requires that an animal inoculated without anæsthetics shall be painlessly killed immediately the main result of the experiment has been attained, if it is found to be in pain which is either considerable in degree or likely to endure.

Another condition secures that all animals operated on under anæsthetics which are to be kept alive after recovery of consciousness shall be treated with strict antiseptic precautions, and that if these fail and pain results the animal shall be killed immediately.

Any subsequent operative procedures on such animals must, under another condition, be carried out under anæsthetics of sufficient power to preclude pain.

Care is taken to secure that no licence or certificate is allowed unless it bears the requisite signatures of the scientific authorities enumerated in Section 11.

The scientific status of every applicant is carefully considered before he is entrusted with a licence; and authority to perform experiments has been refused to students, amateurs, laboratory assistants, and other persons, including investigators who had contravened the Act, who were not deemed to be properly qualified or suitable.

Sanction has been refused for experiments considered to be too severe or to be unlikely to yield valuable results.

Every application for a new licence or certificate is referred by the Secretary of State to the Association for the Advancement of Medicine by Research for their advice. This Association was established in 1882 "with the view of bringing the legitimate influence of the medical profession more effectively to bear on the promotion of those exact researches in physiology, pathology, and therapeutics which are essential to sound progress in the healing art." The Council of the Association included the official heads of the medical profession, Sir William Jenner, Sir James Paget, Mr. (now Lord) Lister, and others, and had entire control of the business of the Association. The Council made an offer to the Home Office in 1882 "to render within their province such aid or advice as would tend to facilitate the administration of the statute without trenching upon the absolute discretion committed to the Home Secretary."

Sir William Harcourt—then Secretary of State—at once accepted this offer, and in December, 1882, it was decided that no application under the Act should be entertained unless it had been recommended to him by the Council, who, on their part, agreed to receive and report on every application. The practice still subsists.

Every application is also carefully considered by one or both of the Inspectors under the Act, Dr. G. D. Thane and Sir James Russell, who give the Secretary of State their skilled and detailed advice on every case and reply to inquiries for any further information which the Department may consider desirable.

On legal and administrative matters the Home Secretary is advised by the Permanent Under Secretary, and he has on some questions of doubt or grave importance obtained the opinions of the Law Officers of the Crown.

The strictest compliance with the law is required of licensees by the Department, and on a few occasions licences have been revoked or suspended on account of irregularities.

Some sixty cases of contravention of the Act have come to the notice of the Secretary of State, the great bulk of them being of a trifling character and calling for no step beyond a warning or a rebuke. These irregularities have for the last ten years been set out in the Inspector's annual return.

No legal proceedings have been instituted by the Secretary of State under the Act.

INSPECTION.

It is the duty of the Secretary of State to cause all places registered for experiments "to be from time to time visited by Inspectors for the purpose of securing a compliance with the provisions of this Act."

The method and amount of inspection will be explained to the Commission by the Inspectors themselves, who are prepared to give evidence.

Successive Secretaries of State have both publicly and in the Department expressed their opinion that the existing inspection does not need to be increased in order to provide for the due observance of the law or the suppression of cruelty; and have concurred in stating that they would not hesitate to add to the inspectorate immediately if they were satisfied that the existing provision was unsatisfactory.

The present staff consists of Dr. G. D. Thane, Inspector, and Sir Jas. Russell, Assistant Inspector. The latter lives in Edinburgh, and carries out his duties in Scotland and the North of England.

PLACES AT WHICH EXPERIMENTS ARE PERFORMED.

Section 7 of the Act 39 and 40 Vict., cap. 77 provides that "The Secretary of State may insert, as a condition of granting any licence, a provision in such licence that the place in which any experiment is to be performed by the licensee is to be registered in such manner as the Secretary of State may from time to time by any general or special order direct; provided that every place for the performance of experiments for the purpose of instruction under this Act shall be approved by the Secretary of State, and shall be registered in such manner as he may from time to time by any general or special order direct."

No general or special order as to registration of places has been issued by the Secretary of State. He has, however (subject to the exceptions mentioned below), required that places at which experiments were to be performed should be registered at the Home Office, the application for registration to come from the person or authority having power to dispose of the use of the premises. Before a place is entered on the register, a visit of inspection is paid by the Inspector, who reports to the Secretary of State as to the suitability of the laboratory and its equipment for the experiments to be performed and as to the adequacy of the accommodation for the animals to be used. In two cases the Secretary of State refused to sanction experimental work at places where the accommodation for animals was inadequate, and in a case in 1904 he required a guarantee of improved accommodation for the animals before the premises were registered. No fee is charged for registration, the Law Officers having advised the Secretary of State (in 1888) that he had no power to charge such a fee.

As a general register of all places is kept, there is no separate registration of places at which experiments are performed for the purpose of instruction. The necessity for a separate register was considered in 1880, and it was then decided that the general register would satisfy the requirements of Section 7 of the Act. The Secretary of State has approved of experiments being performed at two specified places without requiring registration. In each case the investigation was connected with caisson sickness; in one case the experiments were to be performed on the premises of an engineering firm who objected to their premises being registered under the Act, and in the other case the experiments were to be performed in some caissons actually in use in connection with the building of a bridge.

Licences unrestricted as to place have in a few cases been granted, (a) either on the ground of the scientific eminence of the experimenter, or (b) because of the impossibility of moving the animals to a laboratory or of foretelling where the experiments would have to be carried out. The first class includes six cases only; four licences were granted to eminent scientists in 1876, when the Act came into operation, no place being named in the licences; and two licences at first limited to registered places were afterwards made available for "such places as may be advisable."

The other classes of exceptions to the general rule is made up almost entirely of veterinary surgeons in official positions who might be called upon to investigate on the spot outbreaks of disease among animals in remote districts.

With regard to the class of premises which have been registered for the performance therein of experiments on living animals, it is now the practice of the Secretary of State to refuse to register premises under private control except in very special cases, and to require that experimental work shall be carried out in the laboratories of public institutions.

RECORDS AND REPORTS OF EXPERIMENTS.

All licensees are required to keep records and to furnish certain reports to the Inspector of all experiments on living animals performed by them under 39 and 40, Vic., cap. 77. The obligation to keep the records and to make the reports is imposed by the conditions attached to the licence granted by the Secretary of State. The terms of the conditions are as follows:—

(a) "The holder must keep a written record of his experiments. Such record shall be open to examination at any time by the Inspector, and a report of all experiments performed shall be furnished to the Inspector on the 31st day of December, and at any other time when required."

(This condition is endorsed on all licences, and applies to all experiments performed); and

(b) "That after the completion of the experiments detailed in the certificate, or on the 31st day of December in each year in which the said certificate is in force, and at any time when required by the Inspector, the holder of this licence is to report to the Inspector, on the prescribed form, the number and nature of the experiments performed."

(This condition is endorsed on the licence of all licensees who hold certificates A or B.)

The "Record" referred to in the first of the conditions quoted above is the form 9 on page 19 of the Print of Home Office Forms, and is only to be forwarded to the Inspector when required by him, and the "Report," is the form 10 on page 20. It was decided, however, in 1902 that where a licensee records his experiments in a book at his laboratory, entering at least as much information as is required by the Home Office form of record, he need not use the Home Office Form; and every licensee is informed of his decision when his licence is granted.

PUBLICATIONS BY LICENSEES.

Every licence granted by the Secretary of State has a condition attached which requires the holder to forward to the Home Office any description of his experiments which is published in any journal or magazine or in any report of a lecture printed for publication or private circulation.

A large number of such papers are received—*e.g.*, 103 came to hand in the period of eighteen months preceding 31st December, 1905.

These are carefully scrutinised by the Inspectors with a view to the satisfaction of the Secretary of State that no procedures causing pain have been adopted without due authority.

RESULTS OF EXPERIMENTS.

Section 9 of the Act enables the Secretary of State to direct any experimenter to "report from time to time the results of his investigations in such form and with such details as may be required."

No such directions are in force, although in a few instances a licensee has been asked as to the progress of his investigations when an application for sanction to further experiments has been under consideration.

The matter has received anxious consideration at the Home Office. It has been felt that the Secretary of State would be placed in a position of grave responsibility and much difficulty if he were to undertake to formulate and act on a Departmental opinion as to whether the scientific results of a research—possibly of an obscure character and conducted by an expert of unique qualifications—were sufficiently established or promising to justify the pursuit of the investigation. And it would be unreasonable to expect that his inspectors, however learned and accomplished, could be at home in every branch of the most modern research in physiology, pathology, pharmacology, and the rest. On the other hand, the Act invests the Home Secretary with a regulative authority which would apparently include the function of stopping futile and unnecessary experiments. In more than one instance, he has on this ground, imposed his veto on proposed investigations, and has in a large number of cases limited the number of animals to be subjected to experiments in a given research. The learned authorities specified in Section 11 of the Act would appear to be or to include the persons most competent to advise on this matter, and their well-considered recommendation would no doubt meet with general acceptance. It will be observed that the form of application for licence in use contains a line in which the learned signatories expressly "recommend" that the application be granted. The forms of certificate contain no such "recommendation," although if passed by the Secretary of State they operate to allow a licensee to embark on an entirely new investigation. It may be assumed that no president or professor would as a rule attach his signature to a certificate unless satisfied both of the proper qualifications of the licensee and of the expediency of his proposed research. On the other hand, it has been suggested that the Secretary of State would be justified in calling for a positive recommendation from the signatories of a certificate as well as those of an application for a licence. The point is still under consideration.

NUMBER AND NATURE OF EXPERIMENTS PERFORMED.

A table* is subjoined showing the number of experiments returned for the first five years after the passing of the Act and for each year ending a quinquennial period afterwards; this exhibits a marked and steady increase.

The inspectors will give evidence to the Commission on all technical matters arising in connection with experiments and with the annual return.

It may possibly, however, be useful to the Commissioners to have before them at this stage the following general information as to investigations now or recently authorised by licence or certificates. It is compiled from a rough memorandum kept in the Department, in which is briefly noted the subject on each important investigation as it has been authorised, beginning on the 1st of January, 1903. Notes have not generally been made of experiments in which the animal is killed before recovering from the anæsthetic, nor of authorities given for simple inoculations for diagnosis, preparation of curative sera, etc., which form a very large proportion of the whole.

In the period mentioned at least nine gentlemen have been authorised to conduct experiments with regard to tuberculosis, largely in connection with the work of the Royal Commission. The procedures were usually inoculation, feeding, and transplantation.

Some twenty-six experts have been allowed to experiment in regard to cancers and malignant growths, mostly by way of inoculations, feeding, transplantations, and various modes of irritating the skin or tissues.

Ten have received facilities for investigating the action of snake venoms and other poisons.

Parasitic diseases such as sleeping sickness, have been the study of some half-dozen experimenters.

In a few instances, experiments involving some degree of privation of food, or of exposure to variety of temperature have been allowed.

Seven or eight researches have been authorised which involved feeding with various substances in connection with the study of dietetics and poisonous substances in foodstuffs.

Immunisation from infective diseases has been the subject of many researches.

* See Appendix A.

The eye, the teeth and the ear have been studied by several experimenters by means of inoculations, applications of drugs, etc., and surgical interference.

Thirty or more researches into the nervous system have been sanctioned, involving section and union of nerves, removal of ganglia, etc.

The brain in about ten instances, the kidney in two, the liver in four, the pancreas in seven, the spleen in two have been allowed to be subjected to study involving entire, or partial removal and other operations.

The thyroid, the supra renal, the thymus and the prostate glands have been investigated by similar methods by a dozen experimenters; and more than twenty have by means of removal, lesion, ligature, injections, and so forth, studied the functions and behaviour of the intestines, the bile ducts, the pancreas, the gall bladder, the vas deferens, the vermiform appendix and other internal organs.

The reproductive organs and processes have been the subject of experiment by more than twenty investigators.

Lead and nickel poisoning, caisson disease and other maladies incidental to industrial employments, have been investigated by some ten scientists.

The investigation of rabies, distemper, swine fever, and other diseases of animals has necessitated experiments by about twenty experimenters; the study of the action of drugs by a similar number.

Among the miscellaneous subjects in relation to which experiments have been allowed to a single applicant or a small number of applicants may be mentioned—

- Radium and Röntgen and other ray treatment,
- Hereditary transmission of acquired characters,
- Drowning and resuscitation of dogs,
- Destruction of rats on ship board by poisonous gases,
- The effect of the air of the House of Commons on rats,
- Surgical shock,
- Blood changes and arterial diseases,
- Many special diseases, *e.g.*, venereal, beri-beri, lupus, diabetes, tetanus, rickets, goitre, plague, diphtheria, floating kidney, ring-worm, and others.

THE ANNUAL RETURN UNDER THE ACT.

The first Return was ordered by the House of Commons on February 19, 1877, on the motion of Mr. Mundella. It was for a "Return of Licences granted under the Act (39 and 40 Vict., cap. 77) to amend the Law relating to Cruelty to Animals, specifying:—

1. The number of persons to whom such licences have been granted since the Act came in force, and the names of all registered places;
2. The number of licences in which the (optional) provision (Clause 7) requiring that the place wherein the experiment is performed shall be registered, has been inserted;
3. The number of certificates which have been received under Clause 3, permitting experiments as illustrations of lectures to students;
4. The number of certificates which have been received under Clause 5, permitting experiments on cats, dogs, horses, mules, or asses;
5. The number of certificates (special) which have been received for performing experiments without anæsthetics, and the number of such experiments in which curare has been employed;
6. The scientific authorities who have in each case granted such certificates.

This information was supplied as Parliamentary Paper 100 of Session 1877, but it is worth noting that the names of licensees were not given, and that no explanatory report by the Inspector accompanied the Return.

The next Return (193 of Session 1878) is a continuation of the return issued in 1877, with a slight alteration of the form in which the further information is furnished.

In 1879, Mr. Evelyn Ashley moved for a Return of "Copy of any report from the Inspectors, showing the number of experiments performed on living animals during the year 1878, under licences granted under the Act 39 and 40 Vict., cap. 77, distinguishing Painless from Painful Experiments." This Return was granted (127 of Session, 1879) and the attempt to indicate the amount of pain caused was made in a letter from Mr. Busk, the Inspector,

which was prefixed to the usual tables. The tables differ from those previously presented, in that no information is given as to the experiments in which curare was used, and the names of all licensees who did not object were published; and besides this those licensees who had performed no experiments were entered in a table by themselves. The Returns were presented in this form, without any material alteration up to and including the return for the year 1886, there being, however, a tendency to increase the number of footnotes explanatory of the tables.

In the return for 1887, Mr. Erichsen, who was now Inspector, introduced for the first time a separate table (Table III.) "showing the number and the nature of the experiments performed by each licensee during the year 1887." The experiments are classified according to whether they were performed under "Licence" or Certificates A, B, etc., and also according to their nature, *i.e.*, whether physiological, or therapeutical, and a "Pain" column was added, giving such remarks as "ten rabbits" "two cows," the inference apparently intended to be drawn being that these animals suffered pain. There is no correspondence with the file to show that this addition to the Return was considered in the Home Office, and from a minute written in 1890 (see B9,805/5), it would seem that Sir G. Lushington considered the "Pain" column had been added without sufficient consideration. The Return for 1888 is in the same form as the Return for 1887.

A re-arrangement of the Tables I. and II., "List of Licensees who Perform Experiments" and "List of Licensees who performed no Experiments" was effected in the Return for 1889, the columns showing the certificates held by each licensee being placed in the order of the letter borne by the different certificates, *i.e.*, A, B, C, D, etc., and for the first time the special certificates for dogs and cats, and horses, asses, and mules, are given separate columns, E and F. In connection with the preparation of the 1889 Return, it was decided to send a copy of the Return annually to every registered place (B7611/10).

Dr. Poore, the next Inspector, in his first Return (for 1890), which was headed "Return showing the Number of Experiments Performed on Living Animals during the year 1890, under Licences granted under the Act 39 and 40 Vict., cap. 77, distinguishing Painless from Painful Experiments," wished, with Sir G. Lushington's approval, to omit the column headed "Pain" in Table III., but the Secretary of State (Mr. Matthews) objected so strongly (see B9805/5) that the column was retained in a modified form. Its heading was altered from "Pain" to "Remarks," and such notes as "Painless," "Hypodermic Injections," and "Inoculations" were entered therein. The Returns for the years 1891, 1892, 1893, 1894, and 1895 are all in this form. In connection with the preparation of the 1894 Return, however, Sir Kenelm Digby decided that the particulars of all contraventions of the Act, except the names of the offenders, were to be published each year in the letter of the Inspector which precedes the tables.

In the 1896 Return, Dr. Poore divided Table III. into two parts, *viz.* "(A) Experiments other than those of the Nature of Inoculations, Hypodermic Injections, or similar proceedings;" and "(B) Experiments of the Nature of Inoculations, Hypodermic Injections and similar proceedings." Table III. (A) contained all experiments under Licence and Certificates C, B, and B + EE, except inoculations under certificate B, which were entered in Table III.B., together with the experiments under Certificates A., A + E., and A + F. The use of the word "Painless" was confined to Table III.A., and there are very few entries in the "Remarks" column of Table III.B.

In the 1897 Return, the word "Painless" is not used in the "Remarks" column of Table III. The Department questioned this change (see minutes B25696/10), but Dr. Poore said he was not prepared to state which experiments were painful, and which painless. As a compromise, a statement was added to the heading of Table III.A. to the effect that all experiments performed under licence alone or under certificate C. were painless. The Return also contains in the "Place" column of Tables I. and II. the names of all registered places.

In the 1898 Return the column of Tables I. and II. which gave the numbers of special Cat and Dog Certificates E. and EE., was divided into two columns, *viz.* E. (with A.) and EE. (with B.) for the sake of precision.

During the preparation of the 1899 Return, it was decided, again with a view to greater clearness, that all experiments with anæsthetics should be entered in Table

III.A., and all experiments without anæsthetics should be entered in Table III.B. The column for "B. Inoculations only" disappeared from Table III.B., and the heading of the two parts of the table became: "(A) Experiments other than those of the Nature of Simple Inoculations, Hypodermic Injections, and similar proceedings and (B) Experiments of the Nature of *Simple* Inoculations, Hypodermic Injections and similar proceedings performed without Anæsthetics." The question of publishing (in Tables I. and II.) the names as well as the offices of the signatories was raised, but it was decided not to make such an addition to the Return.

No alteration was made in the Return for 1900, but it was decided in connection therewith, and because of the value of the Inspector's report as a guide to licensees, that a copy of each year's Return should from that time forward, be sent to every holder of a licence at the time when the Return should be issued. The form of the Returns for 1901 and 1902 remained the same as the 1899 and 1900 Returns.

In the 1903 Return a new table giving a "List of the Places on the Register under the Act, etc." was inserted, and the two tables of lists of licences (now II. and III.) were arranged alphabetically, according to names of licensees and not according to names of places as hitherto. The Return for 1904 was in the same form.

In the Return for 1905 (the last one issued) several alterations were made. In the first place the description of the Return was changed to "Return showing the number of Experiments on Living Animals during the year 1905, under licences granted under the Act 39 and 40 Vict., cap. 77, distinguishing the Nature of the Experiments." In reply to a question in Parliament, relating to this alteration,

Mr. Gladstone said, "The change was made because it was found impracticable to make a separation between painful and painless experiments. In some cases it is impossible for anyone, even the operator or observer, to say whether pain is caused or not. It is, of course, important to ascertain, and to indicate the extent to which pain is caused to animals by experiment, and the Inspector's report, which precedes the Return, gives this information as far as possible with regard to particular classes of experiments." (Parliamentary Debates, June 28, 1906). Secondly, the last column of Tables II. and III. giving the "Scientific authorities recommending licences and granting certificates," was headed by a note setting out the requirements of the Act as to signatories, and stating that all applications for licences and all certificates had been examined and found to be duly signed. This addition was made because it was considered that the information previously given in these columns was not a sufficient guarantee to the public that each separate application and certificate was duly signed. Thirdly the word "performed" in the headings of Tables II., III., and IV. was altered to "returned." These tables then became "Table II., List of Licensees who Returned Experiments under their Licences and Certificates in 1905"; "Table III., List of Licensees who Returned no Experiments under their Licences and Certificates in 1905"; and "Table IV., Number and Nature of the Experiments Returned." The last change was in the "N.B." at the head of Table IV.A., first inserted in the 1897 Return. Here, for the statement that the animal operated on under licence alone or Certificate C. "*suffers no pain because it is kept*" under anæsthetics during the experiment, a fresh statement that such animal "*is required to be kept*" under anæsthetics during the experiment, was substituted.

APPENDIX A.

Number of Licences and Certificates granted and of Experiments performed

Return up to	Licences.	Certificates.							Number of Experiments.										Remarks.
		A.	B.	C.	D.	E.	and E.E.	F.	Under Licence.	Cert. A.	Cert. B.	Cert. C.	Cert. D.	Cert. E.	Cert. E.E.	Cert. F.	Total.		
March, 1877 -	23	1	—	13	—	—	—	—	317	87	30	47	—	—	18	—	481	1877.	
May, 1878 -	38	7	13	22	2	7	7	—	317	87	30	47	—	—	18	—	481	1878.	
December 31, 1878 -	45	11	14	18	3	6	6	—	317	87	30	47	—	—	18	—	481	Prefatory remarks by Inspector first appear. Forty suffered pain; sixteen considerable pain under A; very slight pain under B. 1878.	
December 31, 1879 -	36	9	6	16	2	Nil.	Nil.	—	126	35	24	61	—	—	—	—	270	Twenty-five painful. 1879.	
December 31, 1880 -	33	3	8	17	1	1	1	—	174	79	35	60	42	—	—	—	311	Thirty slight suffering under A. 1880.	
December 31, 1885 -	53	20	20	21	—	10	10	—	210	382	128	82	—	—	9	—	800	Forty, mostly frogs, slight pain under A. Three painful under B. 1885.	
December 31, 1890 -	110	70	51	25	—	25	25	4	872	796	255	57	—	—	112	10	2,102	No pain witnessed. 1890.	
December 31, 1895 -	213	166	139	48	1	97	97	10	1,333	2,358	761	227	—	—	36	154	9	4,679	Under A, large number of experiments for production of diphtheria and other anti-toxins. More than half the experiments under B, were for diagnosing rabies. Two irregularities reported. 1895.
December 31, 1900 -	247	196	148	52	—	36	74	10	1,118	8,954	586	181	—	—	117	228	129	10,839	Many experiments under A for inoculation for detecting, curing, and preventing disease, and for Public Health work. Five irregularities reported. 1900.
December 31, 1905 -	381	444	296	56	—	101	153	49	1,348	35,429	1,013	145	—	—	549	346	104	37,935	Great increase of Public Health work and investigation for Government Departments and Public Authorities. Two irregularities by licensed persons; one by unlicensed. 1905.

**STATEMENT BY MISS LIND-AF-HAGEBY ON THE EVIDENCE OF DR. A. D. WALLER,
DR. M. S. PEMBREY, AND DR. G. D. THANE.**

In accordance with the permission granted me I beg to draw the attention of the Royal Commission on Vivisection to the following

**INACCURACIES IN DR. A. D. WALLER'S EVIDENCE
ON THE "SHAMBLES OF SCIENCE."**

39th day.

18004. 1. Dr. Waller declared that he was unable to identify the experiment described under that title "A troublesome dog." He asserted that this demonstration never took place at the Physiological Laboratory of the University of London and suggested that it took place somewhere else.

Whereas the demonstration in question took place in the said laboratory on Thursday, February 26th, 1903, between 5 and 6.0 p.m. and formed part of a series of lectures on "The Circulation" by Dr. T. G. Brodie, who upon this occasion, was assisted by Dr. Alcock. A reference to the record of the lectures in the Institute or an enquiry from these two gentlemen will, no doubt, prove to the Commission the accuracy of my correction.

18005. 2. Dr. Waller's assertion that the lecture described in the "Shambles of Science" under the title "A Dog injected with a Substance derived from a Lunatic" took place on February 26th, 1903 is inaccurate.

The lecture was given on Tuesday, February 24th, Tuesdays being the days of Prof. Halliburton's lectures on "The Chemistry of Muscle and Nerve." A printer's error in the first edition of the "Shambles of Science" is responsible for dating this lecture February 26th instead of February 24th. If Dr. Waller's notebook were accurate he would not repeat this printer's error or accept it as a basis upon which to build criticism offered as evidence to the Royal Commission.

18048. 3. Dr. Waller's statement that Dr. Brodie was the lecturer described in the chapter entitled "A Dog injected with a Substance derived from a Lunatic," is also inaccurate. He reveals a further mistake in the notes in his laboratory book when he quotes from it "Lecture on the Circulation by Dr. Brodie" and imagines that the injection of choline formed part of Dr. Brodie's lecture. *The injection of choline into a dog never took place during any of Dr. Brodie's lectures on the circulation.* Dr. Brodie merely assisted Prof. Halliburton in the demonstration of the action of choline appertaining to Prof. Halliburton's lecture on "The Chemistry of Muscle and Nerve," on February 24th.

18059. 4. Dr. Waller's statement that he was present at the lecture on February 26th is also inaccurate. He was present at Prof. Halliburton's lecture on February 24th, but not at Prof. Brodie's on February 26th, a circumstance which may explain why he "saw nothing of the sort," and why he completely mixes up the two lectures and their subjects.

18003. 5. Dr. Waller's statement that the choline which was injected into the dog by Prof. Halliburton was actually taken from a lunatic flatly contradicts Mr. Thane's Report upon the "Shambles of Science," to the Home Office, utilised by this Royal Commission in the course of their examination of me. In this Report Mr. Thane asserted that "The choline injected on the occasion in question was not obtained from a lunatic, but had been made artificially in the laboratory of Merak, the great manufacturing chemist of Darmstadt."

18050. The "Shambles of Science" states that the choline has been taken from a lunatic and so does Dr. Waller. Dr. Thane's Report to the Home Office has been treated as a weighty document by the Commission in their examination of the "Shambles of Science," and I most respectfully beg the Commission to enquire into these diametrically opposite statements, as both cannot be true.

18015. 6. Dr. Waller's statement that the first frog, described in "Painless Experiments" as having a pair of forceps inserted in the skin behind the skull for a moment, had its head cut off is inaccurate. Dr. Pembrey's evidence shows this. Dr. Waller confuses the account of the two frogs described in the chapter "Painless Experiments" which also explains his belief that no cautery was used. In my note book I find a drawing made at the time of the cautery used.

18021. 7. Dr. Waller's statement that the rabbit which was put in the "ice chest" had not previously been anaesthetised is inaccurate. Dr. Pembrey's evidence and the "Shambles

of Science" agree in describing the rabbit as having been anaesthetised. I beg to call attention to two facts in connection with this point:—

(1) In his Report to the Home Office, Dr. Thane refers to the anaesthetic condition of this rabbit as essential to this particular experiment.

(2) In his evidence before the Royal Commission, Dr. Pembrey attempts to justify his action in performing this particular experiment without a certificate by stating that he had anaesthetised the rabbit. 14049.

8. Dr. Waller's statement that it was impossible for the rabbit, described in "Painless Experiments" to "spring back" at the sight of the mutilated frog is inaccurate.

A reference to p. 14 of "Shambles of Science" shows that the state of being frozen is described as anterior to that during which the animal sprang back, and that there is nothing in the aforesaid description to hinder the reader from understanding that the rabbit had had time to regain a more normal temperature.*

I beg to remind the Commission that the notes upon Waller which the "Shambles of Science" is based, were taken at 18069. the time of seeing the experiments, whereas Dr. Waller's 18053. notes, according to his evidence, were not made until some months had passed, and that he frequently confesses before 18054. the Commission that his memory fails him. 18139.

**INACCURACIES IN DR. M. S. PEMBREY'S EVIDENCE
ON THE "SHAMBLES OF SCIENCE."**

1. The "Shambles of Science" states that Dr. Pembrey performed the experiment of putting a rabbit in a freezing machine with a piece of ice for a period of 55 minutes before a class of students. Though substituting the word "ice chest" for freezing machine,† Dr. Pembrey does not attempt to deny the charge made on p. 15 of the first edition of the "Shambles of Science," viz., that he performed the experiment in question without "a licence for that laboratory," and he was not sure whether the laboratory was registered or not. The excuse which he offers for this breach of the Act is based on an entirely inaccurate conception of the requirements of the Act as well as on an erroneous statement of fact.

"I anaesthetised the rabbit," he says. "It was therefore not under the Act." There is nothing in the Act which exempts a vivisector from the necessity of holding Certificate C and of operating in a registered laboratory, provided he administers an anaesthetic. On the contrary, any experiment before students of a nature calculated to give pain (as is undoubtedly the enclosing of a warm-blooded animal in an ice chest with a piece of ice for 55 minutes) must only be performed after due permission and under Certificate C, the essential condition of which is the use of anaesthetics. I submit that the excuse is also an erroneous statement of fact as the anaesthesia could not, and did not, according to Dr. Pembrey, last more than part of the time during which the animal was kept in the ice chest, the administration of ether not being renewed in the course of 55 minutes. I therefore beg to draw the attention of the Commission to the inaccuracy of Dr. Pembrey's defence, and to the disregard of Clause 2 of the Cruelty to Animals Act, 39 & 40 Vict., which his experiment on the rabbit showed. 14049.

2. Dr. Pembrey's assertion that my statement concerning the experiments performed on his marmot was "completely false" is inaccurate. 13989.

Mr. Thane stated in his evidence that this marmot "was never experimented upon save for having its temperature taken." I proved in mine that it had been subjected to starvation experiments, some of which lasted 52, 50 and 42 hours. Dr. Pembrey cannot deny this, and 1272. 9383. 13992.

* Experiments in which animals are first frozen and then allowed to thaw are not uncommon. Dr. J. J. Coleman and Prof. J. G. McKendrick put frogs in a cold chamber and left them there till they were frozen quite solid throughout in about half-an-hour. On thawing slowly in two instances, the animal completely recovered. One experiment was performed on a warm blooded animal, a rabbit, which recovered. (Lecture at the Royal Institution by Dr. J. J. Coleman, May 29th, 1885.)

† The terminology of these experiments is generally somewhat vague; the expressions "cool chamber" and "cold chamber" being used by experimentalists for apparatus in which animals can be "frozen quite solid throughout."

Pembrey
14006.

by admitting that he also performed these experiments without a certificate under the Act of 1876, he shows that he is guilty of another contravention of Clause 2 of this Act.

13993.
13995.
13998.

3. Dr. Pembrey's answers to three questions suggest that the marmot was starved *in the summer*, whereas the animal, according to Dr. Pembrey's own paper in the *Journal of Physiology*, December 23rd, 1901, was starved *in the autumn* at the time when it is greatly in need of feeding and eager to feed, a circumstance through which the experiments were certainly "calculated to give pain."

4. Dr. Pembrey's statement in answer to my evidence concerning experiments on frogs by unlicensed students "that the law relating to experiments on animals renders

necessary the destruction of the animal's cerebral hemispheres" is inaccurate. There is nothing in the Act of 1876 to justify such a statement, and the numerous experiments on frogs by unlicensed students are not rendered legal by any proviso in the Act. Here decerebration of frogs cannot, as advocated in Dr. Pembrey's book, place those who experiment on such animals outside the purview of the Act which relates to all vertebrate animals.

5. Dr. Pembrey's emphatic statement that he did not insert a pair of forceps under the skin of the frog, as stated in the "Shambles of Science," is rendered inaccurate by his assertion that he destroyed the cerebrum. In order to "destroy the cerebrum" he must have inserted the forceps under the skin.

May 28th, 1908.

(Signed) L. LIND-AF-HAGEBY.

Pembrey
14022-3.

14042.

OBSERVATIONS ON MISS LIND-AF-HAGEBY'S STATEMENT BY DR. A. D. WALLER.

(The points raised are taken *seriatim*, by quotation of the actual answers, 1907, to which, where necessary, I have added explanatory additions in square brackets).

Waller
18015.

1. My answer "That means he cut the head off" would have been more accurate if it had run "That means he decerebrated the animal." The annotation in my copy of the "Shambles" p. 11, lines 3 and 4, is—for "under the skin behind the skull" read "into the skull to destroy the brain."

18004.

My actual answer reads: "I mean to say that I think it is a mistake. I think probably this is relating to some other place. I do not think that this lecture [A troublesome dog] took place at the University. I cannot identify it."

18059.

My actual answer reads: "When I got this copy ['Shambles' 1903] I realised that I had been present on February 26th, and thus I set to work to remember a troublesome dog, and all my comments are that I never saw anything of the kind; and now my comment is that I do not believe that that lecture ever took place at the University of London."

18008.

[On reference to the laboratory records I find the following entries:

February 24th, 1903. Prof. Halliburton "On the Chemistry of Muscle and Nerve."

February 26th, 1903. Dr. Brodie "On the Circulation."

18001.

My identification of the lectures referred to in Questions 18001 *et seq.* was based on the descriptions and dates given in the "Shambles of Science," pp. 75-76 and pp. 90-91. I was able to identify one of these lectures only, but not the other. Two lectures were assigned by the authoresses to the date February 26th, 1903, and as two lectures had never taken place on the same day, and I was unable to identify one of these lectures, I concluded that a mistake had been made as to dates or place of delivery. My answers related to the lecture entitled "a dog injected with a substance derived from a lunatic" which I understood to mean "choline" and which I remembered as having been injected by Dr. Brodie. My laboratory record of Dr. Brodie's lecture "On the Circulation" of February 26th, 1903, taken in conjunction with Miss Lind-af-Hageby's record ("Shambles," p. 75) giving February 26th, 1903, as the date on which "a dog was injected with a substance derived from a lunatic," led me to conclude that the injection had been made at that lecture on February 26th by Dr. Brodie. She now states that it was made by Dr. Brodie on February 24th at a lecture by Prof. Halliburton, and that "a printer's error in the first edition of the 'Shambles of Science' is responsible for dating this lecture February 26th instead of February 24th."

18004.

In my answer to Q. 18004 I said that I had been unable to identify both these experiments, and that it was impossible that both should have been made on the same day. As far however as I could identify the experiment from Miss Lind-af-Hageby's description, I believed that from her expression a "substance derived from a lunatic" it must be intended to apply to an experiment by Dr. Brodie in which "choline" was injected. The experiments in question were made conjointly by Halliburton and

Brodie, both of whom were lecturing at the University at that time, and it was impossible to tell from Miss Lind-af-Hageby's descriptions whether she referred to experiments by Dr. Brodie or to experiments by Prof. Halliburton.]

2. My answer runs: [The lecture "a troublesome dog" cannot have taken place at the date Miss Lind-af-Hageby puts it at] because I have the laboratory books here, and another lecture took place on that date namely [that which I identify as] "a dog injected with a substance derived from a lunatic." That lecture did take place on February 26th. In the "Shambles of Science" an experiment headed "a troublesome dog" is described as taking place at that date, but it cannot have done so.

3. My answer runs: Yes, that lecture did take place on February 26th, according to the notes in my laboratory book—"Lecture on the Circulation by Dr. Brodie," and I find Miss Lind-af-Hageby's and Miss Schartau's names as being present then, so that I identify that ["a dog injected with a substance derived from a lunatic"] as the experiment of February 26th; therefore I do not identify the other one [A troublesome dog.]

4. *Vide supra.*

My answer runs: "I was present at the lecture [*i.e.*, at the one that I had identified by date and description in the 'Shambles,'] and I can identify the 'dog injected with a substance derived from a lunatic.' As regards 'a troublesome dog' on going through the description, I could only say that I saw nothing of the sort."

5. My answer runs: "Yes, that is all right. It [*i.e.*, a substance derived from a lunatic] is a description after a fashion of choline. It is [or may be spoken of as] a substance derived from a lunatic. It was [so spoken of] in that case [in the "Shambles of Science."]

6. *Vide supra.* [I was present at the lecture and saw no cautery used.]

7. My answer: "It (the rabbit) was not anaesthetised. It was simply put into the refrigerator, etc." would have been more accurate if I had said that I did not see the rabbit anaesthetised, and was therefore unable to say whether it was so or not. I cannot contradict the statement of Dr. Pembrey and of Miss Lind-af-Hageby that the rabbit was anaesthetised.

8. My statement (Answer 18030) runs: "The description (in the 'Shambles') is: 'The animal was taken out of the freezing machine quite conscious* but frozen stiff like a piece of wood. With all signs of terror the animal springs back and tries to get away, but half-paralysed by the cold and half-fascinated.' My comment upon that is simply that all this is impossible." Miss Lind-af-Hageby refers to p. 14 of the "Shambles" in proof of my inaccuracy, and I find the passage reads as follows: It (the little bleeding piece of frog) falls just in front of the "rabbit which has been crouching on the table since it was taken out of the freezing machine and put there quite conscious* but frozen stiff, like a piece of

*By a misprint in the Evidence (Vol. IV., Q. 18030) the word "unconscious" was wrongly used: in the book, p. 14, the word is "conscious."

wood. With all signs of terror the animal springs back trying to get away, but half-paralysed by the cold and half-fascinated by the uncanny thing it falls down again with its glazed eyes riveted upon the bleeding and twitching reflexes of what was once a frog."

This is an impossible description except in so far as it

throws light upon Miss Lind-af-Hageby's qualities as a witness.

No contradiction. I do not remember all details of Waller all experiments made three or four years previously as described by a not-unprejudiced observer.

February 25th, 1910.

(Signed) A. D. WALLER.

18053.
18054.
18069.
18139.

OBSERVATIONS ON MISS LIND-AF-HAGEBY'S STATEMENT BY DR. M. S. PEMBREY.

6. The only remarks about this section which appear to be necessary are that Dr. Waller has not remembered some small details about the frog mentioned in "Painless Experiments" by Miss Lind-af-Hageby. This is not surprising, for the experiments were simple ones not under the Act.

I have answered for my part in Qs. 14042 to 14044 and Qs. 14050 to 14054 inclusive.

I may add, however, that I used a cautery in the case of the decapitated frog in order to stop bleeding. In the case of the other frog I did not insert forceps under the skin behind the skull for a moment as Miss Lind-af-Hageby still maintains. I destroyed the brain by crushing the roof and floor of the skull between strong Spencer Wells forceps.

7. I have already answered in Qs. 14045 to 14049 and Qs. 14054 to 14056 inclusive. I may add, however, further remarks. Dr. Waller did not see the rabbit anaesthetised. Dr. Thane is right in maintaining that the anaesthetic condition of the rabbit was essential to this particular experiment, for the reasons given in my evidence, Q. 14049. The apparent disagreement is easily explained by the fact that I mentioned in the lecture that a simple experiment not under the Act would show that rabbits exposed to a low temperature maintained their normal bodily heat whereas a frog did not. This occurs under natural conditions every winter in this country.

Miss Lind-af-Hageby's account of the experiment upon the rabbit is as absurd as it is inaccurate. An experiment under the Act is one calculated to cause pain. It is not an experiment under the Act to place a rabbit, whether it is anaesthetised or not, in a chamber with a temperature 5° to 8° C. above freezing point. Rabbits under natural conditions are exposed frequently to temperatures many degrees below the freezing point and show no signs of discomfort.

Miss Lind-af-Hageby says that the rabbit was placed in a freezing machine and frozen as stiff as a board. There was no freezing machine. The rabbit was placed in a chest with double walls and a lump of ice, and the temperature of the rabbit determined in the sight of the audience had not fallen 1° C. When Miss Lind-af-Hageby states that a "reference to p. 14 of 'Shambles' shows that the state of being frozen is described as anterior to that during which the animal sprang back, and that there is nothing in the aforesaid description to hinder the reader from understanding that the rabbit had had time to regain a more normal temperature" she makes her position even worse.

The chest was closed and she could not have seen the rabbit even if it had been frozen. Moreover, she states on

p. 14: "It (the little bleeding piece of frog) falls down just in front of the rabbit, which has been crouching on the table since it was taken out of the freezing machine and put there, quite conscious but frozen stiff like a piece of wood." Observations upon warm-blooded animals found in the country benumbed by cold and lack of food show that they lose consciousness long before they are frozen. It is well known to Arctic explorers that men overcome by severe cold become sleepy and unconscious long before they are frozen to death.

The temperature of the rabbit in question did not fall 1°; in freezing it would have fallen 40° C. If it had, for the sake of argument, been frozen stiff like a piece of wood and had not died, it would have been impossible for it to raise its temperature to 37° in the time.

Miss Lind-af-Hageby is evidently quite ignorant of elementary knowledge upon these points and has written an account which can only be considered as a piece of journalistic imagination. As a statement of fact it is absolutely false. The rabbit showed no signs of abnormality whatever and I offer to show the experiment, which is not one under the Act, to any member of the Royal Commission.

Miss Lind-af-Hageby on "INACCURACIES IN DR. M. S. PEMBREY'S EVIDENCE ON THE 'SHAMBLES OF SCIENCE.'"

1. Already answered on previous pages under Section 7. No experiment under the Act was done, for the experiment is not of a nature to cause pain.

2. Dr. Thane is quite right; no experiment under the Act had been done upon the marmot in question or has Pembrey been done by me upon any marmot (See my evidence, 13989-14017. Qs. 13989 to 14017).

3. Miss Lind-af-Hageby's knowledge of marmots is limited. Marmots will of their own accord go without food for two or three days in autumn as well as summer, they are animals which in many respects resemble cold-blooded animals. Ordinary warm-blooded animals and men can go without food for two or three days without exhibiting any signs of pain. Further details I have given in my evidence Qs. 13989 to 14006 inclusive. 13989-14006.

4. The law relating to experiments on animals does render necessary the destruction of the animals' cerebral hemispheres. An experiment under the Act is one calculated to cause pain. Destruction of the cerebral hemispheres, for the reasons given in my evidence Qs. 14129 to 14130 and Qs. 14136 to 14142, removes in my opinion the higher nerve centres associated with the sensation of pain. 14129-30. 14136-42.

March 4th, 1910.

(Signed) M. S. PEMBREY.

OBSERVATIONS ON MISS LIND-AF-HAGEBY'S STATEMENT BY DR. G. D. THANE.

ON DR. WALLER'S EVIDENCE.

1. The demonstration took place, as stated by Miss Lind-af-Hageby, at the University of London, February 26th, 1903. The lecturer was Dr. Brodie, Dr. Alcock assisted and gave the anaesthetic.

2. The lecture entitled "A Dog injected with a substance derived from a lunatic" was given on February 24th, 1903, by Prof. Halliburton, at the University of London. Dr. Waller has been misled by the error in the date given in the book. Both the lectures are put down to the 26th. Dr. Waller has confused them and identified them wrongly. It must be remembered that the titles of the

lectures given in the book are not those under which the lectures were delivered, and so do not assist in their identification. The book does not say who gave the lecture or demonstration.

3. As stated above, Prof. Halliburton was the lecturer on this occasion; but it was on the 24th, and not on the 26th as given in the book. The injection of choline was made by Prof. Halliburton, and not by Dr. Brodie.

4. From my notes it would appear that Dr. Waller was present on the 24th, and probably not on the 26th. I made my enquiries in 1903, when the matter was comparatively fresh. Dr. Waller gave his evidence four years

later, and his recollections were probably not clear enough to prevent his being misled by the error in the date.

5. Prof. Halliburton informed me that the choline which he used had been prepared synthetically in Merak's Laboratory, Darmstadt. Very likely Dr. Waller did not know this.

6. Dr. Pembrey informed me that the frogs were pithed, the brain being destroyed, or the head was cut off; also that the cautery was used to the decapitated frog. The point is that the proceeding was not simply inserting the point of a pair of forceps under the skin; it went much further, the central nervous system was thereby destroyed.

7. The rabbit was anaesthetised, and Dr. Waller is mistaken in saying that it was not. It was anaesthetised before the lecture began. Dr. Waller possibly did not see it.

8. The animal had not been frozen—"frozen stiff, like a piece of wood" is the original statement. The evidence is conclusive that this was not the case, and that it could not have taken place in the refrigerator that was used.

It is usually said that cold-blooded animals may be frozen, and will then recover, while warm-blooded animals will not. The observations of Mr. Coleman and Prof. McKendrick, in the paper cited by Miss Lind-af-Hageby, are quite in accord with this, as will be seen from the following extracts (*Proceedings of the Royal Institution*, May 29th, 1885, p. 314).

"The effect of the extreme cold on the warm-blooded or homoiothermal animal, as contrasted with its effect on the cold-blooded or poikilotheimal animal, is very striking. The cold-blooded frog became as hard as a stone in from ten to twenty minutes, and the temperature of its body was probably the mean temperature of the chamber; the warm-blooded animal (rabbit) produced in itself so much heat as enabled it to remain soft and comparatively warm during exposure of an hour's duration to -100°F. "

"As blood freezes and the haemoglobin crystallizes at about 25°F. , had the temperature of the body fallen below that point, the animal would not have recovered, as its blood would have been destroyed."

Reading Miss Lind-af-Hageby's statement, one would think that the rabbit had been frozen solid, like the frogs. The fact is, however, that one hour's exposure to a temperature of -100°F. did not freeze the rabbit. It is obvious, therefore, that putting a rabbit into a chamber, the temperature of which was not lower than $+40^{\circ}\text{F.}$ (or at the outside $+35^{\circ}$) could not possibly freeze it.

I append a copy of a Report by Major Williams, M.D., and my colleague, Sir James Russell, on the working of a cold chamber at Liverpool, in which observations on animals are being carried out, with the object of studying the effect of cold on certain infections. From this it will be seen that animals will bear a temperature as low as 20°F. (much lower than that to which Dr. Pembrey's rabbit was subjected) for an indefinite time without any noticeable effects; and the experience of the persons who have been into the chamber shows that the cold does not cause even any inconvenience, beyond increase of appetite. In the *Daily Mail* of February 11th, 1910, is an account of what is called "Refrigerator Cure," that is, a patient who has trypanosomiasis (sleeping sickness) is passing five or six hours a day in this cold chamber at Liverpool, at a temperature of 20°F. What the effect on the disease will be remains to be seen, but the patient's account of the immediate effects is that the only thing he suffers from when in the cold chamber is cold hands.

ON DR. PEMBREY'S EVIDENCE.

1. The passage in Dr. Pembrey's evidence "I anaesthetised the rabbit. It was, therefore, not under the Act" is clearly wrong. Miss Lind-af-Hageby is correct in saying that the administration of an anaesthetic does not exempt a vivisector from the necessity of holding a Certificate C, etc. But Dr. Pembrey, if he said this, did not state his case properly. His position really is that to give an animal an anaesthetic, and to expose it to a temperature of about 40°F. are not proceedings calculated to cause pain, and therefore do not come under the Act. I do not think that many people will agree with Miss Lind-af-Hageby that to enclose a warm-blooded animal in an

ice chest with a piece of ice for fifty-five minutes is calculated to cause any considerable degree of pain. It is certain that the refrigerator here used was not an apparatus in which animals can be frozen quite solid throughout.

2. As to the marmot, I said that it was never experimented upon save for having its temperature taken, that being the information which I received from Dr. Pembrey (Q. 13990). The fasting experiments on the animal I did not know of; Dr. Pembrey considered that they did not come under the Act and therefore they were not reported. When the experiments were brought to the knowledge of the Home Office, Dr. Pembrey was informed that the Secretary of State is of opinion that experiments involving the keeping of a marmot without food for fifty-two hours should not be performed without the authority of a licence and certificate.

3. I do not see the suggestion in Dr. Pembrey's answers that the marmot was starved in the summer. He answers plainly enough the question that was put to him: the animal was not hibernating.

4. The meaning of Dr. Pembrey's statement is quite clear. His position is that the destruction of the cerebral hemispheres "kills the animal, and that the body of the animal in that state is not subject to the Act, for the simple reason that it is impossible to do anything to it that is calculated to cause pain. This is a question which is specially before the Royal Commission.

5. Of course, Dr. Pembrey means here that he did not merely insert the forceps under the skin; he did that and a great deal more.

April 2nd, 1910.

(Signed) G. D. THANE.

REPORT ON THE WORKING OF THE COLD CHAMBER, LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

The machine was started on September 10th, and stopped on September 22nd. It was run again from October 9th to November 28th more or less regularly; but at the moment is again evacuated and under repair.

Ordinarily it has been run from about 7.30 a.m. to 5.30 p.m., with a stoppage of two or three hours in the middle of the day if the temperature was well down. Saturdays it was run only till mid-day, Sundays about two hours. The minimum temperature permitted has been gradually increased, but only at the rate of 2°F. per week. Last week the standing order was 22°F. , and on all occasions when the fixed temperature was reached the machine was stopped. It is difficult to keep the chamber at the lowest temperature for any time, and the temperature rapidly rises when the machine is stopped. Usually the machinery has been stopped for the day about 5.30 p.m. with the temperature at its lowest; and by the morning it has usually risen to about 38° or 40°F. , though on three occasions of frosty days outside it was only 33° , and on many in September and October, when the machine was not started till 10 a.m., was as much as 47° or 48°F.

Fifteen rats, twelve mice and thirteen guinea-pigs have been placed in it. Of the last, six guinea-pigs were only in two or three days before it was temporarily closed. Of the other seven, one (inoculated Ngana) has been in since October 8th, *i.e.*, fifty-two days (to November 29th) and seems quite well. Of the rats, many have been in a long while, the longest also fifty-two days, *i.e.*, from October 8th.

None of the mice have been in less than a month. One guinea-pig died very shortly after being put in the cold chamber, possibly from cold. But as another guinea-pig died in exactly the same way in the animal house, there seems to be nothing in that.

For the rest the general impression I have formed so far is that on the whole, the animals are better and livelier than in the animal house outside. They certainly eat more—and we give them more meat, some margarine, suet and so on—than those outside and seem more lively and active and interested. The control animal house is artificially warmed, but the atmospheric humidity is that of the outside air. The humidity of the chamber air is low, and to its dryness I attribute the well being of the animals confined in it.

So far, it can, I think, be definitely stated that the animals do well in the Cold Chamber and live as long as

the controls outside. They certainly do not uniformly lose weight; their appetites are increased; their vivacity is greater; and no particular evil effects can be attributed to the action of the cold on them, as such.

The influence of the cold on the diseases from which they suffer will be recorded elsewhere.

(Signed) C. L. WILLIAMS, M.D.

MAJOR I.M.S. (retired).

Liverpool,

December 3rd, 1909.

In accordance with the minutes on the papers of Major Williams, 182003, I asked him to send this Report which arrived to-day. On October 27th I was with Major

Williams for about twenty minutes in the cold dry air chamber and examined the animals then confined in it. They were lively and appeared quite well. I found the dry cold air to be exhilarating, and my short stay in the chamber did good to a severe cold in the head from which I was suffering at the time. I regretted that the time at my disposal did not allow of a longer stay in the chamber. The temperature in the chamber was some twenty degrees below that of the outside air which was cold and moist, and I attribute the comfort and benefit I experienced to the dryness of the air; Major Williams did not wear an overcoat. Ten days ago the temperature in Edinburgh was below 20° F. with wind and not very dry.

December 4th, 1909.

(Signed) JAMES RUSSELL.

December 6th, 1909.

(Signed) G. D. THANE.

**LETTER FROM THE HON. S. COLERIDGE ON THE MEMORANDUM OF DR. G. D. THANE
IN VOLUME V. OF EVIDENCE, p. 48.**

My Lord,—The fifth Report of your Commission contains a memorandum from Mr. Thane which appears as Appendix III., p. 48. Under heading (a) Mr. Thane begins the paragraph with my name and writes it with the apparent intention of traversing the specific charge I brought against the Home Office at the end of Q. 10262, which I describe as my tenth charge against the Home Office. That charge had nothing to do with the experiments performed in regard to "braxy," "louping ill," and "struck" in sheep alluded to by Mr. Thane, neither had it anything to do with the experiments on atmospheric pressure also alluded to by him. It was a charge against the Home Office of placing Sir Victor Horsley year after year beyond the reach of the safeguard erected by the Act to protect animals from illegal treatment by licensees. To that charge this Appendix by Mr. Thane affords no defence. Sir Victor Horsley himself at Q. 15735, said that his original permission to perform experiments at places other than registered places, and therefore beyond the reach of inspection, was limited to two experiments. I have now searched the Annual Returns and I find that this permission to Sir Victor Horsley to vivisect beyond the reach of inspection was given him in 1893, also in 1894, also in 1895, also in 1896, also in 1897, also in 1898, also in 1899, also in 1900, also in 1901, also in 1902, also in 1903, also in 1904, also in 1905. In the Report dealing with experiments performed in 1906, I find the note appended to Sir Victor Horsley's name runs as follows: "Prior to (*sic.*), February 13th, Sir Victor Horsley could also perform experiments at such places as might be necessary for the purpose of his experiments."

I therefore desire to point out: (1) that my charge remains entirely unrefuted by anything in this Memorandum of Mr. Thane; and (2) that inasmuch as the announcement by the Home Secretary in Parliament that an enquiry would be held was made on March 13th, 1906, within a month of the withdrawal of this objectionable permission which Sir Victor Horsley had possessed for thirteen years, for the ostensible purpose of performing two experiments, my deduction that the withdrawal was not unconnected with the projected public enquiry is one that I still consider a perfectly just one.

I now come to Mr. Thane's second paragraph (b). He says my remarks at Qs. 10273 and 10275 were unfounded. If the Commissioners will be good enough to read those answers of mine they will discover that so far from being unfounded I give my references for every statement I make, and in all cases the references are to the published Annual Parliamentary Returns. But Mr. Thane's endeavour to persuade the Commissioners that no pain is

inflicted under Certificate A is refuted by his own quotation of the conditions, which he says are attached to that certificate, which manifestly permit any amount of pain following upon an inoculation provided the main result of the experiment has not been attained, and there is nothing in his note to show that anybody's opinion but the vivisector's is required to decide when the result of an experiment has been attained. If therefore in the opinion of the vivisector the result in any particular instance of an experiment has not been attained without a prolonged period of suffering endured by the animal experimented upon, he can legally under this certificate allow the animal to suffer that pain without destroying it. I never suggested that since 1888 severe surgical operations could be performed under Certificate A as issued since that date, and therefore the rest of the paragraph after the word "unfounded," which starts at the top of the second column, I presume is not intended to have reference to anything I may have said.

(c) Mr. Thane's personal assurances about Certificate B in no way traverses the statement made by me before the Commission as to the meaning of the words of the Certificate B as issued since October, 1899, and the interpretation that I put upon the words of the certificate were not altered, but were rather confirmed by the letter of the Home Office which I quoted at Q. 10560 and in Q. 11496.

I beg leave to assert that under the wording of the certificate as issued since 1899, there is nothing to prevent an animal being dissected alive under anaesthesia, being then left on the table fastened down and allowed to recover from the anaesthesia while the vivisectors retire to luncheon, provided that they give the animal a fresh dose of anaesthesia on their return before they begin any further manipulation or operative procedure; whether vivisectors have availed themselves of this appalling permission presented to them by the Home Office since 1899 under Certificate B I am unable to say. It is sufficient for me to protest against such permission being given, which I did in my evidence, and which I do now a second time.

In conclusion, I beg leave to request that this letter of mine be afforded the same publicity in the publications of the Royal Commission as has been given to Mr. Thane's Memorandum, and

I remain, Your Lordship's
Obedient humble Servant,
(Signed) STEPHEN COLERIDGE.

To the Rt. Hon. Viscount Selby.

Sept. 23rd, 1908.

OBSERVATIONS ON THE HON. S. COLERIDGE'S LETTER BY DR. G. D. THANE.

The first section of my Memorandum does not refer to Sir Victor Horsley's permission to experiment at places other than registered places; it deals with the possibility of inspection of unregistered places, since Mr. Coleridge had stated that by giving a licensee permission to vivisect in private places he is thereby placed beyond the possibility of legal inspection. Sir Victor Horsley is not the only licensee who has been permitted to perform experiments at places that are not registered. There are several licensees who have this permission now. The Memorandum gives the Royal Commission information as to the practice of the Home Office in allowing experiments to be performed at places that are not registered, and to what extent provision is made for the inspection of such places.

The second part of the Memorandum is a statement of facts with regard to the "Pain" or "Inoculation" condition, showing that it has not been at any time abandoned or materially modified. It does not endeavour to persuade the Commissioners of anything. The question of pain in experiments performed under Certificate A is dealt with in my evidence. (Q. 452 *et seq.*)

With respect to Section 3 of the Memorandum and Mr. Coleridge's remarks thereupon, it seems that Mr. Coleridge

expects something from Certificate B that does not belong to it. This certificate is drafted in accordance with Sub-section (3) of the second Section of Clause 3 of the Act, and its effect is to free the licensee from the obligation to kill the animal before it recovers from the anaesthetic.

The certificate is not given by the Secretary of State, but by certain persons specially designated in the Act, and they certify that the killing of the animal would necessarily frustrate the object of the experiment—nothing more. The experiments have to be described on the certificate, and the Secretary of State may then, if he does not consider them proper experiments, disallow the certificate, or he may add to the licence such conditions as he considers necessary for the regulation of the experiments.

It is by these conditions therefore, together with the terms of the certificate, that the experiments are controlled. The conditions which are usually appended in respect of Certificate B are the antiseptic and anaesthetic conditions (Nos. 8 and 9 on p. 44 of Part V. of the evidence), but when it is necessary other appropriate conditions are framed.

(Signed) G. D. THANE.

April 2nd, 1910.